7.7 Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative

This alternative would involve the development of a number of geographically distributed small to medium solar PV systems (100 kilowatts to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities throughout Imperial County. Under this alternative, no new land would be developed or altered. Depending on the type of solar modules installed and the type of tracking equipment used, a similar or greater amount of acreage (i.e., greater than 100 acres of total rooftop area) may be required to attain the proposed project's capacity of 20 MW of solar PV generating capacity. This alternative would involve placement of PV structures, transmission lines, and development of additional supporting facilities, such as switching stations and substations at various locations throughout the County. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations.

This alternative would require hundreds of installation locations across Imperial County, many of which would require approval of discretionary actions, such as design review, CUPs, or zone variances depending on local jurisdictional requirements. Similar to the proposed project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. This alternative would involve the construction of transmission lines and development of additional supporting facilities, such as switching stations and substations at various locations throughout the County to distribute the energy.

Rooftop PV systems exist in small areas throughout California. Larger distributed solar PV installations are becoming more common. An example of a distributed PV system is 1 MW of distributed solar energy installed by Southern California Edison on a 458,000 square-foot industrial building in Chino, California.[1]

Similar to utility-scale PV systems, the acreage of rooftops or other infrastructure required per MW of electricity produced is wide ranging, which is largely due to site-specific conditions (e.g., solar insolation levels, intervening landscape or topography, PV panel technology, etc.). Based on SCE's use of 458,000-square feet for 1 MW of energy, approximately 9,160,000 square feet (approximately 210 acres) would be required to produce 20 MW.

7.7.1 Environmental Impact of Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative

Aesthetics and Visual Resources

This alternative would reduce the overall size of the solar energy field located in one place. However, this alternative would involve placement of PV structures, transmission lines, and development of additional supporting facilities, such as switching stations and substations at various locations throughout the County. There could be significant aesthetic impacts in certain areas depending on the locations of these facilities. Transmission lines would need to be constructed to serve the PV generation sites, all of which would be placed in closer proximity to urban areas, and all of which would

[1] http://newsroom.edison.com/releases/california-regulators-approve-southern-california-edison-proposal-to-create-nations-largest-solar-panel-installation-program

be more readily visible to more people as compared to the proposed project. Compared to the proposed project, this alternative could result in greater aesthetics impacts.

Air Quality

Under this alternative, air emissions due to project construction could be less than the proposed project on a localized level; however, PV facilities and supporting infrastructure would still need to be constructed to support this alternative, which, like the proposed project, would involve short-term construction emissions. These emissions would likely be spread-out geographically throughout the basin, and would occur over a longer period of time, as this alternative would involve a longer overall timeframe for implementation. Furthermore, the construction efficiencies that can be obtained by mobilizing equipment and crews in one general location over a shorter timeframe would not be realized. By the nature of the alternative, in that solar panels would be constructed on habitable structures throughout the County, this alternative has the potential to expose more people to more localized construction-related emissions. Compared to the proposed project, this alternative would develop less renewable energy megawatt generation in the near-future, thereby reducing its ability to provide a long-term source of renewable energy and meeting renewable energy goals, and air quality impacts could be greater than those of the project under this alternative.

Biological Resources

Under this alternative, potential direct and indirect impacts to burrowing owl and jurisdictional waters would be avoided as compared to the proposed project. However, this alternative would also require the construction of supporting infrastructure that has the potential to result in biological impacts. While this alternative may avoid the specific impacts associated with the proposed project, it could also result in greater biological impacts in other areas of the County where supporting infrastructure is required to support Distributed Energy facilities.

Cultural Resources

This alternative would require the construction of infrastructure that has the potential to result in cultural and tribal cultural resources impacts If rooftop solar panels were proposed on historic buildings, this alternative could affect the historic character and integrity of the buildings. Implementation of this alternative would require historic surveys and investigations to evaluate the eligibility of potentially historic structures that are over 50 years old, and either avoidance of such buildings, or incorporation of design measures to minimize impacts on historic integrity of historically-significant structures. Compared to the proposed project, this alternative could result in greater impacts related to cultural and tribal cultural resources.

Geology and Soils

This alternative would involve placement of PV structures, transmission lines, and development of additional supporting facilities, such as switching stations and substations at various locations throughout the County. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. However, this alternative would still require grading and construction of new facilities such as transmission lines, PV structures, and supporting facilities (i.e., switching stations and substations) at various locations throughout the County. This alternative would likely result in similar impacts related to strong ground shaking, soil erosion, and paleontological resources as the proposed project. This alternative would also be subject to similar mitigation

measures as the proposed project to minimize impacts to a less than significant level. This alternative would result in similar geological and soil impacts.

Greenhouse Gas Emissions

Under this alternative, the project footprint would be reduced; however, in order to achieve the same megawatt capacity as the proposed project, this alternative would also involve a surface area similar in size to the project site. Therefore, while this alternative could reduce or eliminate GHG emissions during project construction at the project site, an equivalent level of GHG emissions is likely to occur, as a result of constructing solar panels and supporting infrastructure throughout the County. Furthermore, as a consequence of the reduced PV footprint associated with the utility-scale solar farm, this alternative would result in a reduced power production capacity as compared to the proposed project; hence, the overall benefits of the project to global climate change through the creation of renewable energy would also be reduced. As with the proposed project, this alternative would not conflict with any applicable plan, policy, or regulation for the purpose of reducing the emissions of greenhouse gases. Compared to the proposed project, although this alternative would result in reduced construction emissions at the project site, overall, a similar level of emissions would be expected.

Hydrology/Water Quality

This alternative would likely avoid any impacts associated with modifications to the existing drainage patterns and the volume of storm water runoff, as this alternative would introduce less impervious surface areas (this alternative would involve construction of PV facilities on existing structures and within existing developed areas). Also, this alternative would likely avoid any impacts to jurisdictional waters. Compared to the proposed project, this alternative would result in fewer impacts related to hydrology/water quality.

Land Use Planning

Similar to the proposed project, this alternative would not divide an established community and would involve multiple planning approvals (e.g., variances, CUPs, rezones) in order to accommodate the solar generating uses within other zones of the County that currently do not allow such uses. Compared to the proposed project, land use and planning impacts resulting from this alternative would be similar than those identified for the proposed project.

Transportation/Traffic

This alternative would not reduce or avoid an impact to transportation/traffic and would result in less than significant impacts similar to the proposed project. As with the proposed project, this alternative would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, conflict with an applicable congestion management program, substantially increase hazards due to a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. This alternative would result in a similar impact related to transportation/traffic as the proposed project.

Utilities and Service Systems

As with the proposed project, this alternative would require water service and energy for the operation of the projects. This alternative would involve the construction of transmission lines and development

of additional supporting facilities, such as switching stations and substations at various locations throughout the County to distribute the energy. Compared to the proposed project, this alternative could require the relocation or construction of new or expanded supporting energy infrastructure throughout the County. Compared to the proposed project, impacts associated with utilities and service systems resulting from this alternative could be potentially greater than those identified for the proposed project.

Conclusion

As shown on Table 7-1, implementation of Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative would result in reduced impacts for the following environmental issue areas as compared to the proposed project: hydrology/water quality. Overall, this alternative would result in greater impacts related to aesthetics, air quality, biological resources, cultural resources, tribal cultural resources, and utilities and service systems.

Comparison of Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative

Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative would meet most of the basic objectives of the proposed project. However, this alternative would result in greater impacts for the following environmental issue areas as compared to the proposed project: aesthetics, air quality, biological resources, cultural resources, and utilities and service systems. Furthermore, this alternative would have a number of drawbacks, including, but not limited to the following:

- Difficulties with respect to buildout of the system within a timeframe that would be similar to that of the proposed project;
- Given the distributed nature of such a network of facilities, management and maintenance would not be as efficient, and total capital costs would likely be higher;
- The requirement to negotiate with a large number of individual property owners to permit placement of solar panels on rooftops;
- The difficulty of ensuring proper maintenance of a large number of smaller solar installations; and
- The lack of an effective electricity distribution system for large numbers of small electricity producers.

7.8 Environmentally Superior Alternative

Table 7-1 provides a qualitative comparison of the impacts for each alternative compared to the proposed project. As noted on Table 7-1, the No Project/No Development Alternative would be considered the environmentally superior alternative, since it would eliminate all of the significant impacts identified for the project. However, CEQA Guidelines Section 15126.6(e)(2) states that "if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." As shown on Table 7-1, Alternative 2 and Alternative 3 would both result in less impacts on Land Use and Planning because they are located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone. No Variance would be required under either of these alternatives because the proposed height of the transmission towers (70 feet)

would not exceed the 120 feet height limit of non-residential structures in the A-2-RE Zone or A-3 Zone. However, compared to the proposed project, the Alternative 2 site is located on agricultural lands and would result in the conversion of agricultural land to non-agricultural uses. Compared to the proposed project, this alternative would result in additional impacts (conversion of agricultural land to non-agricultural uses) that are currently not identified for the project at the currently proposed location. Based on these considerations, Alternative 3 is considered the Environmentally Superior Alternative.

Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands	Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands	Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative
Aesthetics and Visual Resources	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact
Air Quality	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact
Biological Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact
Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact

Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands	Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands	Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative
Geology and Soils	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact
GHG Emissions	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Hydrology/ Water Quality	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Potentially Significant *Comparison to Proposed Project:* Greater Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Land Use/Planning	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact

Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Development within Renewable Energy Overlay Zone – Agricultural Lands	Alternative 3: Development within Renewable Energy Overlay Zone – Desert Lands	Alternative 4: Distributed Commercial and Industrial Rooftop Solar Only Alternative
Transportation/ Traffic	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Utilities/Service Systems	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Greater Impact

Notes:
CEQA=California Environmental Quality Act; GHG=greenhouse gas

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9 EIR Preparers and Persons and Organizations Contacted

9.1 EIR Preparers

This EIR was prepared for the County of Imperial by HDR at 591 Camino de la Reina, Suite 300, San Diego, CA 92108. The following professionals participated in its preparation:

County of Imperial

Jim Minnick, Planning & Development Services Director

Michael Abraham, AICP, Assistant Planning & Development Services Director

Patricia Valenzuela, Planner IV

Joe Hernandez, Planner IV

HDR

Tim Gnibus, Principal/Project Manager

Sharyn Del Rosario, Deputy Project Manager

Jade Dean, Geographic Information Systems Analyst

Renee Stueber, Document Production Administrator

HDR was assisted by the following consultants:

Barrett's Biological Surveys (Flat-Tailed Horned Lizard Survey)

2035 Forrester Road

El Centro, CA 92243

Dubose Design Group, Inc. (Water Supply Assessment)

1065 State Street

El Centro, CA 92243

Stantec Consulting Services, Inc. - San Francisco (Visual Resources Technical Report)

100 California Street, Suite 1000

San Francisco, CA 94111

Stantec Consulting Services, Inc. – San Bernardino (Glare Hazard Analysis Report, CEQA-Level Geotechnical Study)

735 East Carnegie Drive

San Bernardino, CA 92408

Stantec Consulting Services, Inc. – Thousand Oaks (Air Quality Technical Study, Biological Resources Technical Report, Preliminary Jurisdictional Waters/Wetlands Delineation Report, Water Quality Management Plan)

290 Conejo Ridge Avenue

Thousand Oaks, CA 91361

Tierra Environmental Services (Cultural Resources Survey)

9915 Businesspark Ave., Suite C

San Diego, CA 92131

9.2 Persons and Organizations Contacted

The following persons and organizations were contacted in preparation of this document:

- Imperial Irrigation District

Appendix A

Initial Study and Notice of Preparation and Responses

Notice of Preparation

To: Office of Planning & Research
(Agency)

P.O. Box 3044, 1400 Tenth Street, Room 212
(Address)

Sacramento, CA 95812-3044

Subject: Notice of Preparation of a Draft Environmental Impact Report

Lead Agency:		**Consulting Firm** (If applicable):	
Agency Name	Imperial County, Planning & Dev Svcs.	Firm Name	HDR
Street Address	801 Main Street	Street Address	591 Camino de la Reina, Suite 300
City/State/Zip	El Centro, CA 92243	City/State/Zip	San Diego, CA 92108
Contact	Patricia Valenzuela	Contact	Tim Gnibus

The County of Imperial will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the project identified below. We need to know the views of your agency as to the scope and content of the Environmental Information, which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study is attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but ***not later than 35 days*** after receipt of this notice.

Please send your response to Imperial County Planning & Development Services, Attn: Patricia Valenzuela at the address shown above. We will need the name for a contact person in your agency.

Project Title: Wister Solar Energy Facility Project

Project Location: The Wister Solar Energy Facility Project consists of four primary components: 1) solar generation equipment and associated facilities (herein referred to as "solar energy facility"); 2) gen-tie line that would connect the proposed on-site substation to the Point of Interconnection (POI) at the existing Imperial Irrigation District's (IID) 92-kilovolt (kV) "K" line; 3) fiberoptic cable; and, 4) upgrades to off-site IID facilities (92-kV line from New Mecca to the North Shore substation, and Niland substation). These components are collectively referred to as the "proposed project" or "project."

- ***Solar Energy Facility and Gen-Tie Line.*** The project site is located approximately three miles north of Niland, a census-designated place, in the unincorporated area of Imperial County. The project site is located on one parcel of land identified as Assessor's Parcel Number 003-240-001. The parcel is approximately 640 acres and is currently zoned Open Space/Preservation with a geothermal overlay (S-2-G). The proposed project would be located on approximately 100 acres within the northwest portion of the 640-acre parcel. The project site is located east of the intersection of Wilkins Road and an unnamed county road. The project footprint (where proposed project components are to be located) is generally located east of Wilkins Road, north of the East Highline Canal, and west of Gas Line Road. As shown on Figure 1, the project site is located outside of the Renewable Energy Overlay Zone.

- ***Fiberoptic Cable.*** The proposed project includes approximately two miles of fiberoptic line from the proposed on-site substation to the existing Niland Substation, located at 402 Beal Road in Niland.
- ***Off-Site IID Facilities.*** The 92-kV line from New Mecca to the North Shore substation is located north of the Salton Sea in southeastern Riverside County. The North Shore Substation is located at the northeast corner of Club View Drive and Windlass Drive in the census-designated place of North Shore. The New Mecca Substation is located at the northeast corner of Hammond Road and Johnson Street in the unincorporated community of Mecca. The Niland substation is located at 402 Beal Road in Niland.

Project Description (brief)**:** The proposed Wister Solar Energy Facility Project involves the construction and operation of a 20 Megawatt (MW) photovoltaic (PV) solar energy facility on approximately 100 acres of privately-owned land north of Niland. The proposed project would be comprised of solar PV panels on single-axis horizontal trackers, an on-site substation and inverters, transformers, and underground electrical cables. The proposed project also includes approximately two miles of fiberoptic line from the proposed on-site substation to the existing Niland Substation to connect the proposed Wister Substation to the region's telecommunications system.

The power produced by the proposed project would be conveyed to the local power grid via an on-site 92-kV substation, which will be tied directly to IID's 92-kV transmission line. A gen-tie line would connect the Wister substation to the POI at the existing IID 92-kV "K" line. The project applicant has secured a Power Purchase Agreement with San Diego Gas and Electric for the sale of power from the project.

In order to support the proposed project, IID will need to upgrade ± 5 miles of the existing 92-kV line from New Mecca to the North Shore substation. This upgrade would consist of removal of the existing wood poles and installing new wood poles within the same disturbed right of way. In addition, the existing 795 all-aluminum conductor (AAC) conductor would be upgraded to 1033 AAC conductor, and new insulators, fittings, and hardware would be installed on the upgraded poles. IID would upgrade relay protection, control, Supervisory Control and Data Acquisition, and telecommunication capabilities for the 92-kV gen-tie and terminals at the New Mecca and Niland substations in support of the project.

Project Applicant: ORNI 21, LLC

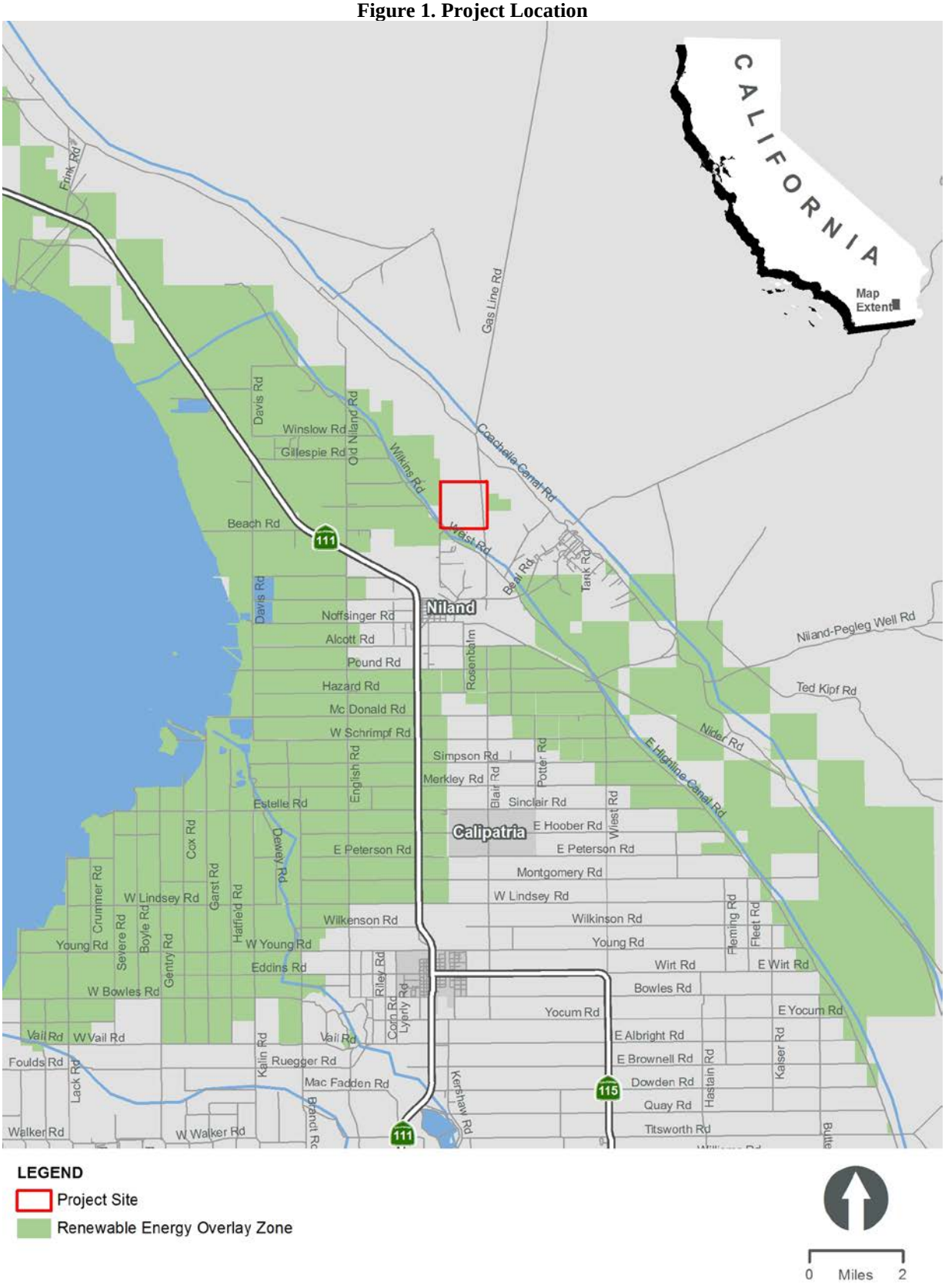
Date _____ Signature _____

Title _____

Telephone _____

Reference: California Administrative Code, Title 14, (CEQA Guidelines) Section 15082(a), 15103, 15375.

Figure 1. Project Location



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Imperial County
Planning & Development Services Department

NOTICE OF PREPARATION OF DRAFT EIR FOR WISTER SOLAR ENERGY FACILITY PROJECT AND NOTICE OF PUBLIC EIR SCOPING MEETING

The Imperial County Planning & Development Services Department intends to prepare an Environmental Impact Report (EIR) for the proposed Wister Solar Energy Facility Project as described below. A public scoping meeting for the proposed EIR will be held by the Imperial County Planning & Development Services Department on November 14 at 6:00 P.M. The scoping meeting will be held at the Board of Supervisors Chambers, 2nd Floor, County Administration Center located at 940 Main Street, El Centro, CA 92243. Comments regarding the scope of the EIR will be accepted at this meeting.

SUBJECT: Wister Solar Energy Facility Project EIR

BOARD OF SUPERVISORS CONSIDERATION: To Be Determined.

PROJECT LOCATION: The Wister Solar Energy Facility Project consists of four primary components: 1) solar generation equipment and associated facilities (herein referred to as "solar energy facility"); 2) gen-tie line that would connect the proposed on-site substation to the Point of Interconnection (POI) at the existing Imperial Irrigation District's (IID) 92-kilovolt (kV) "K" line; 3) fiberoptic cable; and, 4) upgrades to off-site IID facilities (92-kV line from New Mecca to the North Shore substation, and Niland substation). These components are collectively referred to as the "proposed project" or "project."

- ***Solar Energy Facility and Gen-Tie Line.*** The project site is located approximately three miles north of Niland, a census-designated place, in the unincorporated area of Imperial County. The project site is located on one parcel of land identified as Assessor's Parcel Number 003-240-001. The parcel is approximately 640 acres and is currently zoned Open Space/Preservation with a geothermal overlay (S-2-G). The proposed project would be located on approximately 100 acres within the northwest portion of the 640-acre parcel. The project site is located east of the intersection of Wilkins Road and an unnamed county road. The project footprint (where proposed project components are to be located) is generally located east of Wilkins Road, north of the East Highline Canal, and west of Gas Line Road.The project site is located outside of the Renewable Energy Overlay Zone.
- ***Fiberoptic Cable.*** The proposed project includes approximately two miles of fiberoptic line from the proposed on-site substation to the existing Niland Substation, located at 402 Beal Road in Niland.
- ***Off-Site IID Facilities.*** The 92-kV line from New Mecca to the North Shore substation is located north of the Salton Sea in southeastern Riverside County. The North Shore Substation is located at the northeast corner of Club View Drive and Windlass Drive in the census-designated place of North Shore. The New Mecca Substation is located at the northeast corner of Hammond Road and Johnson Street in the unincorporated community of Mecca. The Niland substation is located at 402 Beal Road in Niland.

PROJECT DESCRIPTION: The proposed Wister Solar Energy Facility Project involves the construction and operation of a 20 Megawatt (MW) photovoltaic (PV) solar energy facility on approximately 100 acres of privately-owned land north of Niland. The proposed project would be comprised of solar PV panels on single-axis horizontal trackers, an on-site substation and inverters, transformers, and underground electrical cables. The proposed project also includes approximately two miles of fiberoptic line from the proposed on-site substation to the existing Niland Substation to connect the proposed Wister Substation to the region's telecommunications system.

The power produced by the proposed project would be conveyed to the local power grid via an on-site 92-kV substation, which will be tied directly to the Imperial Irrigation District's 92-kV transmission line. A gen-tie line would connect the Wister substation to the Point of Interconnection at the existing IID 92-kV "K" line. The project applicant has secured a Power Purchase Agreement with San Diego Gas and Electric for the sale of power from the project.

In order to support the proposed project, IID will need to upgrade ± 5 miles of the existing 92-kV line from New Mecca to the North Shore substation. This upgrade would consist of removal of the existing wood poles and installing new wood poles within the same disturbed right of way. In addition, the existing 795 all-aluminum conductor (AAC) conductor would be upgraded to 1033 AAC conductor, and new insulators, fittings, and hardware would be installed on the upgraded poles. IID would upgrade relay protection, control, Supervisory Control and Data Acquisition, and telecommunication capabilities for the 92-kV gen-tie and terminals at the New Mecca and Niland substations in support of the project.

PROJECT APPLICANT: ORNI 21, LLC

URBAN AREA PLAN: None, located in unincorporated area of County of Imperial

BOARD OF SUPERVISORS DISTRICT: District 4, Supervisor Ryan E. Kelley

ANTICIPATED SIGNIFICANT EFFECTS: The EIR will analyze potential impacts associated with the following: Aesthetics; Air Quality; Biological Resources; Cultural Resources; Paleontological Resources; Tribal Cultural Resources; Cumulative Impacts; Geology/Soils; Greenhouse Gas Emissions/Climate Change; Growth-inducing Impacts; Hydrology and Water Quality; Land Use and Planning; Transportation/Traffic; and Utilities and Service Systems including water supply.

COMMENTS REQUESTED: The Imperial County Planning & Development Services Department would like to know your ideas about the potential effects this project might have on the environment and your suggestions as to mitigation or ways the project may be revised to reduce or avoid any potentially significant environmental impacts. Your comments will guide the scope and content of potential environmental issues to be examined in the EIR. Your comments may be submitted in writing to Patricia Valenzuela, Imperial County Planning & Development Services Department, 801 Main Street, El Centro, CA 92243. Available project information may be reviewed at this location.

NOTICE OF PREPARATION REVIEW PERIOD: NOVEMBER 6, 2019 THROUGH DECEMBER 11, 2019

11341093

Project Description

3 Project Description

Chapter 3 provides a description of the Wister Solar Energy Project. This chapter also defines the goals and objectives of the proposed project, provides details regarding the individual components that together comprise the project, and identifies the discretionary approvals required for project implementation.

The proposed project consists of four primary components: 1) solar generation equipment and associated facilities (herein referred to as "solar energy facility"); 2) gen-tie line that would connect the proposed on-site substation to the Point of Interconnection (POI) at the existing Imperial Irrigation District's (IID) 92-kilovolt (kV) "K" line; 3) fiberoptic cable; and, 4) upgrades to off-site IID facilities.

3.1 Project Location

3.1.1 Solar Energy Facility and Gen-Tie Line

The project site is located approximately three miles north of Niland, a census-designated place, in the unincorporated area of Imperial County (Figure 3-1). The project site is located on one parcel of land identified as Assessor's Parcel Number 003-240-001 (Figure 3-2). The parcel is approximately 640 acres and is currently zoned Open Space/Preservation with a geothermal overlay (S-2-G). The proposed project would be located on approximately 100 acres within the northwest portion of the 640-acre parcel. The project site is located east of the intersection of Wilkins Road and an unnamed county road. The project footprint (physical area where proposed project components are to be located) is generally located east of Wilkins Road, north of the East Highline Canal, and west of Gas Line Road.

3.1.2 Fiberoptic Cable

The proposed project includes approximately two miles of fiberoptic line from the proposed on-site substation to the existing Niland Substation, located at 402 Beal Road in Niland.

3.1.3 Off-Site IID Facilities

In order to support the proposed project, IID will need to upgrade ± 5 miles of the existing 92-kV line from New Mecca to the North Shore Substation. These facilities are located north of the Salton Sea in southeastern Riverside County. The North Shore Substation is located at the northeast corner of Club View Drive and Windlass Drive in the census-designated place of North Shore. The New Mecca Substation is located at the northeast corner of Hammond Road and Johnson Street in the unincorporated community of Mecca.

IID would also need to upgrade relay protection, control, Supervisory Control and Data Acquisition (SCADA), and telecommunication capabilities for the 92-kV gen-tie and terminals at the New Mecca and Niland substations in support of the project. The Niland substation is located at 402 Beal Road in Niland.

3.1.4 Renewable Energy Overlay Zone

In 2016, the County adopted the Imperial County Renewable Energy and Transmission Element, which includes a RE Zone (RE Overlay Map). This General Plan element was created as part of the California Energy Commission Renewable Energy Grant Program to amend and update the County's General Plan to facilitate future development of renewable energy projects.

The County Land Use Ordinance, Division 17, includes the RE Overlay Zone, which authorizes the development and operation of renewable energy projects with an approved Conditional Use Permit (CUP). The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact on other established uses. CUP applications proposed for specific renewable energy projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone.

The County's General Plan and Land Use Ordinance allows for renewable energy projects proposed on land classified as a non-RE Overlay zone if the renewable energy project: 1) would be located adjacent to an existing RE Overlay Zone; 2) is not located in a sensitive area; 3) is located in proximity to renewable energy infrastructure; and, 4) and would not result in any significant environmental impacts.

As shown on Figure 3-1, the project site is located outside of the RE Overlay Zone. Therefore, the applicant is requesting a General Plan Amendment and Zone Change to add the project area to the County's RE Overlay Zone. No land use amendment is requested, and the underlying "Recreation" General Plan designation would remain.

Figure 3-1. Regional Location

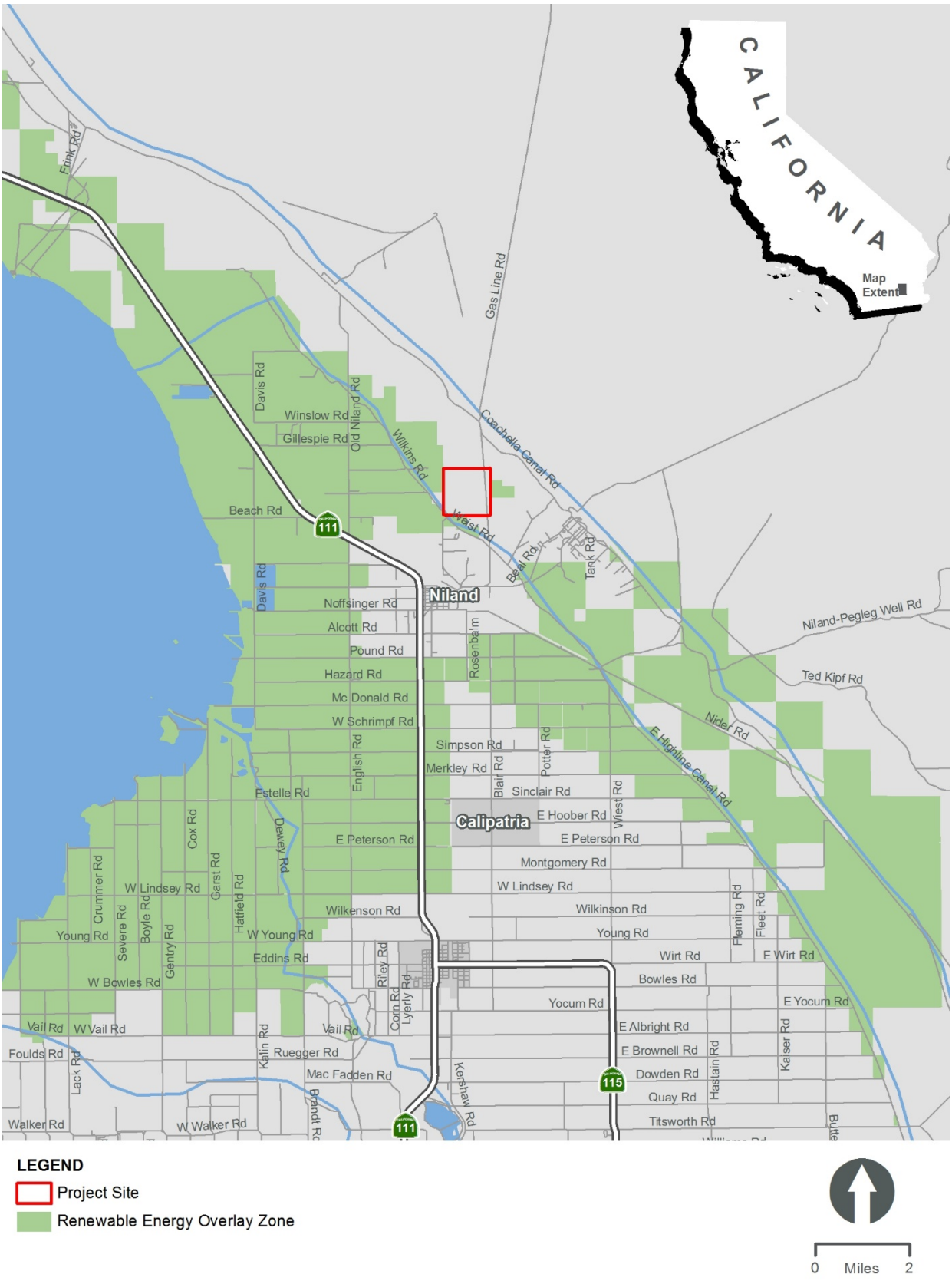


Figure 3-2. Project Site

3.2 Project Objectives

- Construct, operate and maintain an efficient, economic, reliable, safe and environmentally sound solar-powered electricity generating facility.
- Help meet California's Renewable Portfolio Standard (RPS) requirements, which require that by 2030, California's electric utilities are to obtain 50 percent of the electricity they supply from renewable sources.
- Generate renewable solar-generated electricity from proven technology, at a competitive cost, with low environmental impact, and deliver it to the local markets as soon as possible.
- Develop, construct, own and operate the Wister Solar Energy Facility, and ultimately sell its electricity and all renewable and environmental attributes to an electric utility purchaser under a long-term contract to meet California's RPS goals.
- Utilize a location that is in close proximity to an existing switching station and powerlines.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

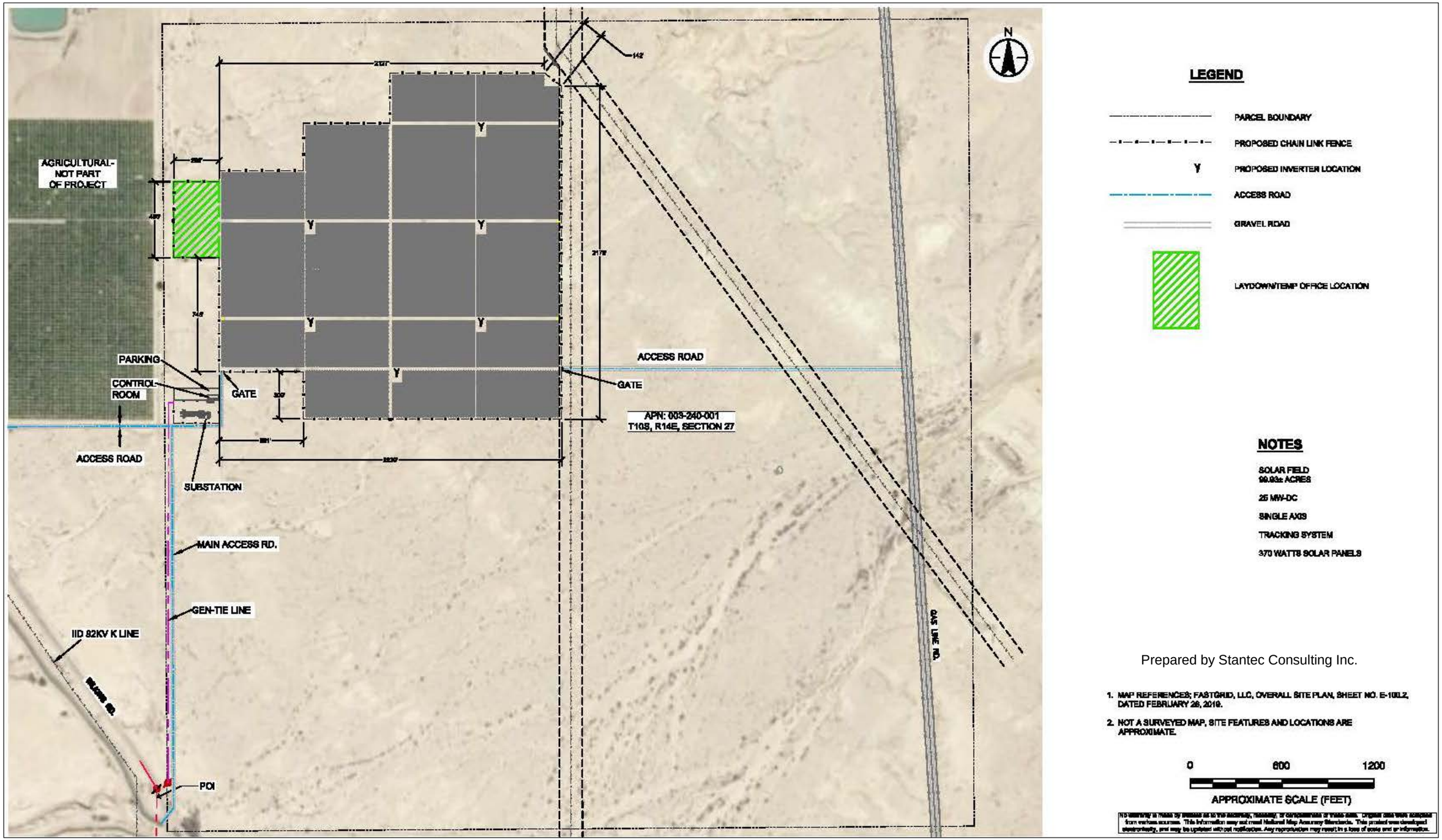
3.3 Project Characteristics

The proposed Wister Solar Energy Facility Project involves the construction and operation of a 20 Megawatt (MW) photovoltaic (PV) solar energy facility on approximately 100 acres of privately-owned land north of Niland. The proposed project would be comprised of solar PV panels on single-axis horizontal trackers, an on-site substation and inverters, transformers, and underground electrical cables. Figure 3-3 depicts the proposed site plan.

The power produced by the proposed project would be conveyed to the local power grid via an on-site 92-kV substation, which will be tied directly to the Imperial Irrigation District's 92-kV transmission line. A gen-tie line would connect the Wister substation to the POI at the existing IID 92-kV "K" line.

The project applicant has secured a Power Purchase Agreement (PPA) with San Diego Gas and Electric for the sale of power from the project.

Figure 3-3. Preliminary Site Plan



3.3.1 Photovoltaic Panels/Solar Arrays

PV solar cells convert sunlight directly into direct current (DC) electricity. The process of converting light (photons) to electricity (voltage) in a solid state process is called the photovoltaic effect. A number of individual PV cells are electrically arranged and connected into solar PV modules, sometimes referred to as solar panels.

The solar PV generating facility would consist of 3.5 foot by 4.8-foot PV modules (or panels) on single-axis horizontal trackers in blocks that each hold 2,520 PV panels. Figure 3-4 provides a representative example of single-axis horizontal trackers. The panels would be oriented from east to west for maximum exposure and the foundation would be designed based on soil conditions, with driven piles as the preferred method. The PV modules would be made of a poly-crystalline silicon semiconductor material encapsulated in glass. Installation of the PV arrays would include installation of mounting posts, module rail assemblies, PV modules, inverters, transformers and buried electrical conductors. Concrete would be required for the footings, foundations and pads for the transformers and substation work.

PV modules would be organized into electrical groups referred to as “blocks.” The proposed project would consist of 12 blocks. Every two blocks will be collected to an inverter and would typically encompass approximately 8 acres, including a pad for one transformer and one inverter. Approximately 96 acres of ground disturbance, including acreage for 12 blocks, is required for the proposed project. The proposed project would include design elements to reduce the potential glare impacts on adjacent sensitive receptors (e.g. local residents, aircraft, traveling public on adjacent County roads).

The electrical output from the PV modules would be low voltage DC power that would be collected and routed to a series of inverters and their associated pad-mounted transformers. Each array would have one inverter and one transformer, which are collectively known as a Power Conversion Station (PCS). The inverters would convert the DC power generated by the panels to AC power and the pad mounted transformers step up the voltage to a nominal level. The outputs from the transformers are grouped together in PV combining switchgear, which in turn supplies the switchyard, where the power is stepped up to 92-kV for interconnection with the transmission system.

Figure 3-4. Representative Example of Typical Single-Axis Tracking Solar Panels

3.3.2 Substation

The proposed Wister Substation would be a new 92/12-kV unstaffed, automated, low-profile substation. The dimensions of the fenced substation would be approximately 300 feet by 175 feet. The enclosed substation footprint would encompass approximately 1.2 acres of the approximately 640-acre project parcel. As shown on Figure 3-3, the proposed Wister Substation site would be located at the northwest quarter of the parcel, immediately southwest of the solar field. The California Building Code and the Institute of Electrical and Electronics Engineers (IEEE) 693, Recommended Practices for Seismic Design of Substations, will be followed for the substation's design, structures, and equipment. A representative example of a substation is presented on Figure 3-5.

Figure 3-5. Representative Example of Typical Substation Design

3.3.3 Fiberoptic Cable

A proposed fiberoptic line from the proposed Wister Substation would be connected with the existing Niland Substation approximately two miles to the south, which would then be added to connect the proposed Wister Substation to the region's telecommunications system. Overall, this would provide Supervisory Control and Data Acquisition (SCADA), protective relaying, data transmission, and telephone services for the proposed Wister Substation and associated facilities. New telecommunications equipment would be installed at the proposed Wister Substation within the Mechanical and Electrical Equipment Room (MEER). The proposed fiber optic telecommunications cable would utilize existing transmission lines to connect to the Niland Substation. The length of the proposed fiber optic telecommunications cable route would be approximately two miles.

3.3.4 Gen-Tie Line

As shown on Figure 3-3, a proposed gen-tie line would connect the Wister substation to the POI at the existing IID 92-kV "K" line. The proposed gen-tie line would originate at the proposed Wister

substation and would terminate at the POI, at a distance of approximately 2,500 feet to the south-southwest. Steel poles, standing at a maximum height of 70 feet tall, will be spaced approximately every 300 feet along the route, and would support the 92-kV conductor and fiberoptic cable to the POI. Construction of the 2,500-foot gen-tie line to the POI would utilize overland travel along the entire route.

3.3.5 Auxiliary Facilities

This section describes the auxiliary facilities that would be constructed and operated in conjunction with the solar facility.

Site Security and Fencing

The project site would be fenced with a 6-foot high chain link security fence topped with barbed wire. Points of ingress/egress would be accessed via locked gates.

Lighting System

Minimal lighting would be required for operations and would be limited to safety and security functions. All lighting would be directed downward and shielded to confine direct rays to the project site and muted to the maximum extent consistent with safety and operational necessity (Title 9, Division 17, Chapter 2: Specific Standards for all Renewable Energy Projects, of the County's Zoning Ordinance).

Access

A total of three access roads will service the proposed project. Access to the project site from the east would be located off Gas Line Road. Access to the project site from the west would include two routes: one route north from the southwest corner of the parcel off Wilkins Road (main access road), and another route off Wilkins Road just south of the existing orchard to the west of the project. These two access roads from the west would both lead to the same gate at the project site. All access roads would be constructed with an all-weather surface, to meet the County Fire Department's standards, and lead to a locked gate that can be opened by any emergency responders. Figure 3-3 illustrates the project site layout and access points.

An all-weather surface access road, to meet the County's standards, would surround the perimeter of the site, as well as around solar blocks no greater than 500 by 500 feet.

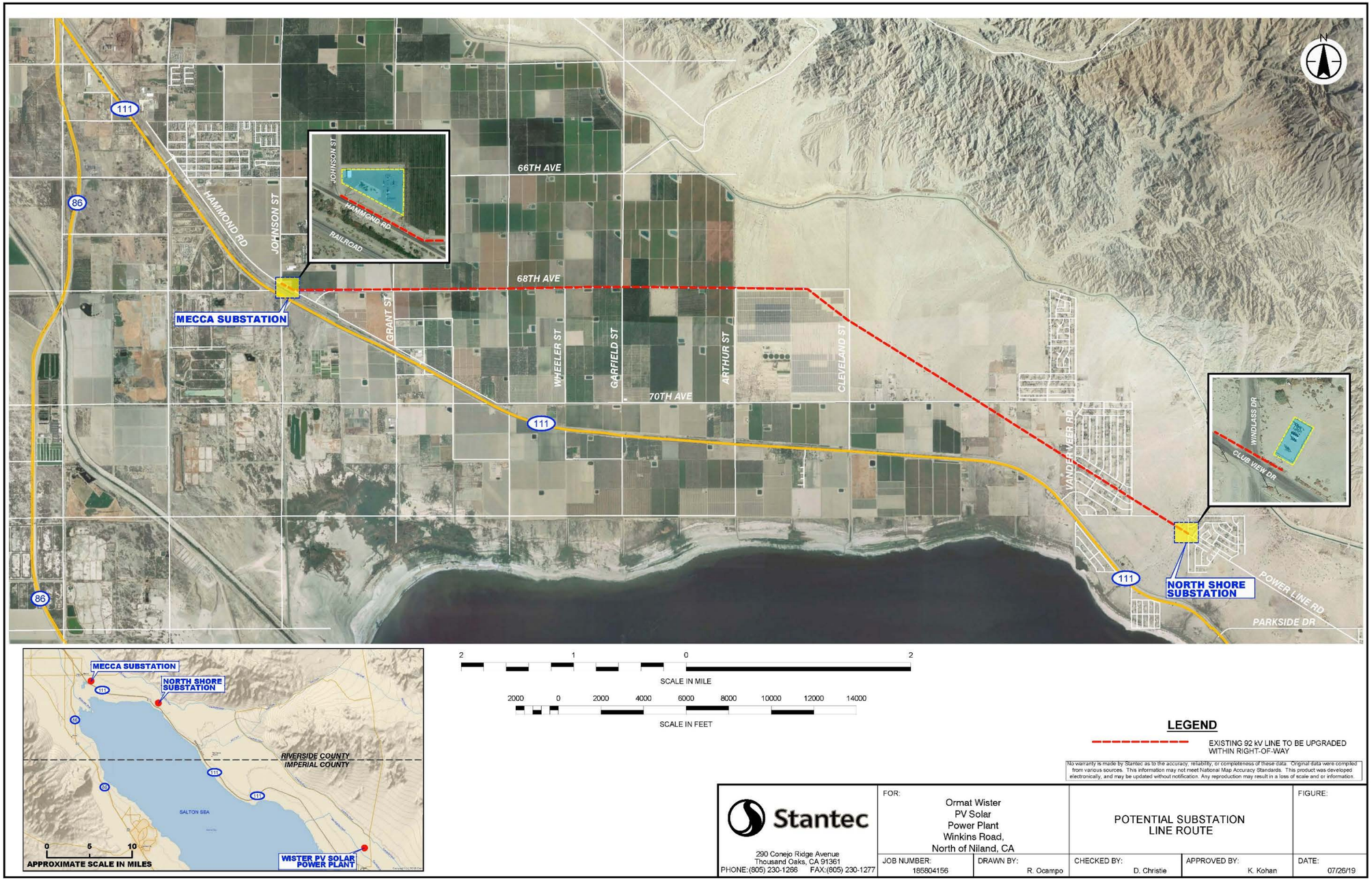
3.3.6 Upgrade of Existing IID 92-kV Line

In order to support the proposed project, IID will need to upgrade ± 5 miles of the existing 92-kV line from New Mecca to the North Shore substation (Figure 3-6). This upgrade would consist of removal of the existing wood poles (Class C1) and installing new wood poles (Class H2) within the same disturbed right of way. In addition, the existing 795 AAC conductor would be upgraded to 1033 AAC conductor, and new insulators, fittings, and hardware would be installed on the upgraded poles.

3.3.7 New Mecca and Niland Substation Upgrades

IID would upgrade relay protection, control, SCADA, and telecommunication capabilities for the 92-kV gen-tie and terminals at the New Mecca and Niland substations in support of the project.

Figure 3-6. Upgrade of IID's Existing 92-kV Line



3.4 Project Construction

3.4.1 Construction Sequence

Construction activities would be sequenced and conducted in a manner that addresses storm water management and soil conservation. During construction, electrical equipment would be placed in service at the completion of each 2,500-kW power-block. The activation of the power-blocks is turned over to interconnection following the installation of transformer and interconnection equipment upgrades. This in-service timing is critical because PV panels can produce power as soon as they are exposed to sunlight, and because the large number of blocks and the amount of time needed to commission each block requires commissioning to be integrated closely with construction on a block-by-block basis.

Construction would generally occur during daylight hours, Monday through Friday. However, non-daylight work hours may be necessary to make up schedule deficiencies, or to complete critical construction activities. For example, during hot weather, it may be necessary to start work earlier to avoid pouring concrete during high ambient temperatures. If construction is to occur outside of the County's specified working hours, permission in writing will be sought at the time. Construction of the proposed project would occur in phases beginning with site preparation and grading and ending with equipment setup and commencement of commercial operations. Overall, construction would consist of three major phases over a period of approximately 6-9 months:

1. Site Preparation, which includes clearing grubbing, grading, service roads, fences, drainage, and concrete pads; (1 month)
2. PV system installation and testing, which includes installation of mounting posts, assembling the structural components, mounting the PV modules, wiring; (7 months) and
3. Site clean-up and restoration. (1 month)

Construction activities would be conducted in a manner consistent with Imperial County Codified Ordinance. Noise generating sources in Imperial County are regulated under the County of Imperial Codified Ordinances, Title 9, Division 7 (Noise Abatement and Control). Noise limits are established in Chapter 2 of this ordinance. Under Section 90702.00 of this rule, average hourly noise in residential areas is limited to 50 to 55 dB(A) from 7 AM to 10 PM, and to 45 to 50 dB(A) from 10 PM to 7 AM.

3.4.2 Workforce

The on-site workforce would consist of laborers, electricians, supervisory personnel, support personnel and construction management personnel. The average number of construction workers would be approximately 50-60 people per day.

3.4.3 Materials

The proposed project would require general construction materials (i.e., concrete, wood, metal, fuel, etc.) as well as the materials necessary to construct the proposed PV arrays. Most construction waste is expected to be non-hazardous and to consist primarily of cardboard, wood pallets, copper wire, scrap steel, common trash and wood wire spools. Although field equipment used during construction activities could contain various hazardous materials (i.e., hydraulic oil, diesel fuel,

grease, lubricants, solvents, adhesives, paints, etc.), these materials are not considered to be acutely hazardous and would be used in accordance with the manufacturer's specifications and all applicable regulations.

Each PV module would be constructed out of poly-crystalline silicon semiconductor material encapsulated in glass. Construction of the PV arrays will include installation of support beams, module rail assemblies, PV modules, inverters, transformers, and underground electrical cables. Concrete will be required for the footings, foundations, pads for transformers, and substation equipment. Concrete will be purchased from a local supplier and transported to the proposed project site by truck. The PCS housing the inverters will have a precast concrete base. Final concrete specifications will be determined during detailed design engineering in accordance with applicable building codes.

Table 3-1. Example Construction Equipment

Equipment	Use
1-ton crew trucks	Transport construction personnel
2-ton flatbed trucks; flatbed boom trucks	Haul and unload materials
Mechanic truck	Service and repair equipment
Aerial bucket trucks	Access poles, string conductor, and other uses
Shop vans	Store tools
Bulldozers	Grade pole sites; reclamation
Truck-mounted diggers or backhoes	Excavate
Small mobile cranes (12 tons)	Load and unload materials
Large mobile cranes (75 tons)	Erect structures
Transport	Haul poles and equipment
Drill rigs with augers	Excavate and install fences
Semi tractor-trailers	Haul structures and equipment
Splice trailers	Store splicing supplies
Air compressor	Operate air tools
Air tampers	Compact soil around structure foundations
Concrete trucks	Pour concrete
Dump trucks	Haul excavated materials/import backfill
Fuel and equipment fluid trucks	Refuel and maintain vehicles
Water trucks	Supress dust and fire

3.4.4 Site Preparation

Project construction would include the renovation of existing dirt roads to all-weather surfaces (to meet the County standards) from Wilkins Road just south of the orchard, and a new road would be graded west from Gas Line Road and a new road graded north from the southwest corner of the parcel off Wilkins Road. Construction of the proposed project would begin with clearing of existing brush and installation of fencing around the project boundary. A 20' road of engineering-approved aggregate will surround the site within the fencing.

Material and equipment staging areas would be established on-site within an approximate 4-acre area. The staging area would include an air-conditioned temporary construction office, a first-aid station and other temporary facilities including, but not limited to, sanitary facilities, worker parking, truck loading and unloading, and a designated area for assembling the support structures for the placement of PV modules. The location of the staging area would change as construction progresses throughout the project site. The project construction contractor would then survey, clear and grade road corridors in order to bring equipment, materials, and workers to the various areas under construction within the project site. Road corridors buried electrical lines, PV array locations and locations of other facilities may be flagged and staked in order to guide construction activities. In addition, water truck reloading stations would be established for dust control.

3.4.5 Start-up

PV system installation would include earthwork, grading and erosion control, as well as erection of the PV modules, mounting posts and associated electrical equipment. The PV modules require a moderately flat surface for installation and therefore some earthwork, including grading, fill, compaction and erosion control, may be required to accommodate the placement of PV arrays, concrete for foundations, access roads and/or drainage features. Construction of the PV arrays would be expected to take place at a rate of approximately 0.10 MW per day. Construction of the PV arrays would include installation of the mounting posts, module assemblies, PV modules, inverters, transformers and buried electrical conductors. The module assemblies would then be cut off at the appropriate heights since the center posts must be completely level. Field welding would be required to attach the module assemblies to the top of the mounting posts. Finally, the PV panels would be attached to the module assemblies. Heavy equipment lifters (e.g., forklift) would be required to get the module assemblies in position, while welding and cutting equipment would be necessary to cut off the posts at the appropriate height.

3.4.6 Construction Water Requirements

Approximately 20,000 to 30,000 gallons of water per day would initially be required for grading, dropping to much less for the remainder of the project construction. Construction water needs would be limited to earthwork, soil conditioning, dust suppression, and compaction efforts. During construction, water would be pulled from the East Highline Canal at the canal gate in the southwest corner of the project parcel.

3.4.7 Dust Suppression

The project would comply with all applicable air pollution control regulations. During the construction phase of the project, standard dust control measures would be used to mitigate emissions of fugitive dust. These may include watering or applying dust palliatives with low environmental toxicity to suppress dust during construction.

3.4.8 Clean-up and Demobilization

After construction is complete, all existing roads would be left in a condition equal to or better than their preconstruction condition. All other areas disturbed by construction activities would be recontoured and decompacted.

Waste materials and debris from construction areas would be collected, hauled away, and disposed of at approved landfill sites. Cleared vegetation would be shredded and distributed over the

disturbed site as mulch and erosion control or disposed of offsite, depending on agency agreements. Rocks removed during foundation excavation would be redistributed over the disturbed site to resemble adjacent site conditions. Interim reclamation would include re-contouring of impacted areas to match the surrounding terrain, and cleaning trash out of gullies. Equipment used could include a blader, front-end loader, tractor, and a dozer with a ripper.

A covered portable dumpster would be kept on site to contain any trash that can be blown away. After completion of the proposed project, the project engineer would complete a final walk-through and note any waste material left on site and any ruts or terrain damage or vegetation disturbance that has not been repaired.

3.5 Operations and Maintenance

Once fully constructed, the proposed project would be operated on an unstaffed basis and be monitored remotely, with periodic on-site personnel visitations for security, maintenance and system monitoring. Therefore, no full-time site personnel would be required on-site during operations and employees would only be on-site four times per year to wash the panels. As the project's PV arrays produce electricity passively, maintenance requirements are anticipated to be very minimal. Any required planned maintenance activities would generally consist of equipment inspection and replacement and would be scheduled to avoid peak load periods. Any unplanned maintenance would be responded to as needed, depending on the event.

Estimated annual water consumption for operation and maintenance of the proposed project, including periodic PV module washing, would be approximately 0.81-acre feet annually (af/y). Water would be pulled from the East Highline Canal at the canal gate in the southwest corner of the project parcel and trucked into the project site.

3.6 Facility Decommissioning

Solar equipment has a lifespan of approximately 20 to 25 years. At the end of the project's operation term, the applicant may determine that the project should be decommissioned and deconstructed. Should the project be decommissioned, concrete footings, foundations, and pads would be removed using heavy equipment and recycled at an off-site location. All remaining components would be removed, and all disturbed areas would be reclaimed and recontoured.

3.7 Required Project Approvals

3.7.1 Imperial County

The County would be required to approve the following pursuant to CEQA:

1. **Approval of Conditional Use Permit.** Implementation of the project would require the approval of a CUP by the County to allow for the construction and operation of the proposed solar energy facility project. The project site is located on one privately-owned legal parcel zoned Open Space/Preservation with a geothermal overlay (S-2-G). Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County: Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to approved exclusively by an agency, or agencies of the State or Federal government, and provided

such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:

- Electrical generation plants
- Facilities for the transmission of electrical energy (100-200 kV)
- Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)

2. **General Plan Amendment.** An amendment to the County's General Plan, Renewable Energy and Transmission Element is required to implement the proposed project. CUP applications proposed for specific renewable energy projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone. The project site is located outside of the RE Overlay Zone; therefore, the applicant is requesting a General Plan Amendment to include/classify the project site into the RE Overlay Zone. No change in the underlying general plan land use is proposed.
3. **Zone Change.** The project site is not located in the RE Overlay Zone; therefore, the applicant is requesting a zone change to include/classify the project site into the RE Overlay Zone.
4. **Variance.** A variance is required to exceed the height limit for transmission towers within the S-2 zone. The existing S-2 zone allows a maximum height limit of 40 feet; whereas implementation of the project may involve the construction of transmission towers of up to 70 feet in height. Therefore, a variance for any structure exceeding the existing maximum height limit of 40 feet would be required.
5. **Certification of the EIR.** After the required public review for the Draft EIR, the County will respond to written comments, edit the document, and produce a Final EIR to be certified by the Planning Commission and Board of Supervisors prior to making a decision on the project.

Subsequent ministerial approvals may include, but are not limited to:

- Grading and clearing permits
- Building permits
- Reclamation plan
- Encroachment permits
- Transportation permit(s)

3.7.2 Discretionary Actions and Approvals by Other Agencies

Responsible Agencies are those agencies that have discretionary approval over one or more actions involved with development of the project. Trustee Agencies are state agencies that have discretionary approval or jurisdiction by law over natural resources affected by a project. These agencies may include, but are not limited to the following:

- California Regional Water Quality Control Board – Notice of Intent for General Construction Permit, Clean Water Act 401 Water Quality Certification
- Imperial County Air Pollution Control District – Fugitive Dust Control Plan, Rule 801 Compliance

- California Department of Fish and Wildlife Service (Trustee Agency) – Endangered Species Act Compliance, Section 1600 Streambed Alteration Agreement
- U.S. Fish and Wildlife Service – Endangered Species Act Compliance
- U.S. Army Corps of Engineers – Section 404 of the Clean Water Act Permit

3.7.3 Potential Actions/Approvals by Other Agencies

The proposed off-site improvements (pole replacement and the fiber optic cable) may require actions or approvals by the following agencies:

- Imperial Irrigation District – for any approvals related to the fiber optic cable and IID 92-kV line upgrades
- County of Riverside – for any approvals that may be triggered by work necessary for the installation of that portion of the IID 92-kV line and substation upgrades located within County of Riverside jurisdiction

Initial Study

Initial Study and NOP

Wister Solar Energy Facility Project

Imperial County, CA

November 2019

Reviewed by:

County of Imperial

Planning & Development Services Department

801 Main Street

El Centro, CA 92243

Prepared by:

HDR Engineering, Inc.

591 Camino de la Reina, Suite 300

San Diego, CA 92108

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Contents

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Introduction

A. Purpose

This document is a ☐ policy-level; ☒ project-level Initial Study for evaluation of potential environmental impacts resulting with the proposed Wister Solar Energy Facility Project.

B. CEQA Requirements and the Imperial County's Rules and Regulations for Implementing CEQA

As defined by Section 15063 of the State California Environmental Quality Act (CEQA) Guidelines and Section 7 of the County's Rules and Regulations for Implementing CEQA, an **Initial Study** is prepared primarily to provide the Lead Agency with information to use as the basis for determining whether an Environmental Impact Report (EIR), Negative Declaration, or Mitigated Negative Declaration would be appropriate for providing the necessary environmental documentation and clearance for any proposed project.

☒ According to Section 15065, an **EIR** is deemed appropriate for a particular proposal if the following conditions occur:

- The proposal has the potential to substantially degrade quality of the environment.
- The proposal has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The proposal has possible environmental effects that are individually limited but cumulatively considerable.
- The proposal could cause direct or indirect adverse effects on human beings.

☐ According to Section 15070(a), a **Negative Declaration** is deemed appropriate if the proposal would not result in any significant effect on the environment.

☐ According to Section 15070(b), a **Mitigated Negative Declaration** is deemed appropriate if it is determined that though a proposal could result in a significant effect, mitigation measures are available to reduce these significant effects to insignificant levels.

This Initial Study has determined that the proposed applications will result in potentially significant environmental impacts and therefore, an Environmental Impact Report is deemed as the appropriate document to provide necessary environmental evaluations and clearance for the proposed project.

This Initial Study and Notice of Preparation are prepared in conformance with the California Environmental Quality Act of 1970, as amended (Public Resources Code, Section 21000 et. seq.); the State CEQA Guidelines & County of Imperial's CEQA Regulations, Guidelines for the Implementation of CEQA; applicable requirements of the County of Imperial; and the regulations, requirements, and procedures of any other responsible public agency or an agency with jurisdiction by law.

Pursuant to the County of Imperial's CEQA Regulations, Guidelines for the Implementation of CEQA, depending on the project scope, the County of Imperial Board of Supervisors, Planning

Commission and/or Planning Director is designated the Lead Agency, in accordance with Section 15050 of the CEQA Guidelines. The Lead Agency is the public agency which has the principal responsibility for approving the necessary environmental clearances and analyses for any project in the County.

C. Intended Uses of Initial Study and Notice of Preparation

This Initial Study and Notice of Preparation are informational documents which are intended to inform County of Imperial decision makers, other responsible or interested agencies, and the general public of potential environmental effects of the proposed applications. The environmental review process has been established to enable public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any potentially adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including economic and social goals.

The Initial Study and Notice of Preparation, prepared for the project will be circulated for a period of no less than 35 days for public and agency review and comments.

D. Contents of Initial Study and Notice of Preparation

This Initial Study is organized to facilitate a basic understanding of the existing setting and environmental implications of the proposed applications.

SECTION 1

I. INTRODUCTION presents an introduction to the entire report. This section discusses the environmental process, scope of environmental review, and incorporation by reference documents.

SECTION 2

II. ENVIRONMENTAL CHECKLIST FORM contains the County's Environmental Checklist Form. The checklist form presents results of the environmental evaluation for the proposed applications and those issue areas that would have either a significant impact, potentially significant impact, or no impact.

PROJECT SUMMARY, LOCATION AND ENVIRONMENTAL SETTINGS describes the proposed project entitlements and required applications. A description of discretionary approvals and permits required for project implementation is also included. It also identifies the location of the project and a general description of the surrounding environmental settings.

ENVIRONMENTAL ANALYSIS evaluates each response provided in the environmental checklist form. Each response checked in the checklist form is discussed and supported with sufficient data and analysis as necessary. As appropriate, each response discussion describes and identifies specific impacts anticipated with project implementation.

SECTION 3

III. MANDATORY FINDINGS presents Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

E. Scope of Environmental Analysis

For evaluation of environmental impacts, each question from the Environmental Checklist Form is summarized and responses are provided according to the analysis undertaken as part of the Initial Study. Impacts and effects will be evaluated and quantified, when appropriate. To each question, there are four possible responses, including:

1. No Impact: A “No Impact” response is adequately supported if the impact simply does not apply to the proposed applications.
2. Less Than Significant Impact: The proposed applications will have the potential to impact the environment. These impacts, however, will be less than significant; no additional analysis is required.
3. Less Than Significant With Mitigation Incorporated: This applies where incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact."
4. Potentially Significant Impact: The proposed applications could have impacts that are considered significant. Additional analyses and possibly an EIR could be required to identify mitigation measures that could reduce these impacts to less than significant levels.

F. Policy-Level or Project-Level Environmental Analysis

This Initial Study will be conducted under a ☐ policy-level, ☒project-level analysis.

Regarding mitigation measures, it is not the intent of this document to “overlap” or restate conditions of approval that are commonly established for future known projects or the proposed applications. Additionally, those other standard requirements and regulations that any development must comply with, that are outside the County’s jurisdiction, are also not considered mitigation measures, and therefore, will not be identified in this document.

G. Tiered Documents and Incorporation by Reference

Information, findings, and conclusions contained in this document are based on incorporation by reference of tiered documentation, which are discussed in the following section.

1. Tiered Documents

As permitted in Section 15152(a) of the CEQA Guidelines, information and discussions from other documents can be included into this document. Tiering is defined as follows:

“Tiering refers to using the analysis of general matters contained in a broader EIR (such as the one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.”

Tiering also allows this document to comply with Section 15152(b) of the CEQA Guidelines, which discourages redundant analyses, as follows:

“Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including the general plans, zoning changes, and development

projects. This approach can eliminate repetitive discussion of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review. Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy or program to an EIR or negative declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration."

Further, Section 15152(d) of the CEQA Guidelines states:

"Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:

(1) Were not examined as significant effects on the environment in the prior EIR; or

(2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means."

2. **Incorporation by Reference**

Incorporation by reference is a procedure for reducing the size of EIRs/MND and is most appropriate for including long, descriptive, or technical materials that provide general background information, but do not contribute directly to the specific analysis of the project itself. This procedure is particularly useful when an EIR or Negative Declaration relies on a broadly-drafted EIR for its evaluation of cumulative impacts of related projects (*Las Virgenes Homeowners Federation v. County of Los Angeles* [1986, 177 Ca.3d 300]). If an EIR or Negative Declaration relies on information from a supporting study that is available to the public, the EIR or Negative Declaration cannot be deemed unsupported by evidence or analysis (*San Francisco Ecology Center v. City and County of San Francisco* [1975, 48 Ca.3d 584, 595]).

When an EIR or Negative Declaration incorporates a document by reference, the incorporation must comply with Section 15150 of the CEQA Guidelines as follows:

- The incorporated document must be available to the public or be a matter of public record (CEQA Guidelines Section 15150[a]). The General Plan EIR is available, along with this document, at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (442) 265-1736.
- This document must be available for inspection by the public at an office of the lead agency (CEQA Guidelines Section 15150[b]). These documents are available at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243, Ph. (442) 265-1736.
- These documents must summarize the portion of the document being incorporated by reference or briefly describe information that cannot be summarized. Furthermore, these documents must describe the relationship between the incorporated information and the analysis in the tiered documents (CEQA Guidelines Section 15150[c]). As discussed above, the tiered EIRs address the entire project site and provide background and inventory information and data which apply to the project site. Incorporated information and/or data will be cited in the appropriate sections.

- These documents must include the State identification number of the incorporated documents (CEQA Guidelines Section 15150[d]). The State Clearinghouse Number for the ‘County of Imperial General Plan EIR is SCH #93011023.

The material to be incorporated in this document will include general background information (CEQA Guidelines Section 15150[f])

Environmental Checklist Form

1. **Project Title:** Wister Solar Energy Facility Project

2. **Lead Agency name and address:** Imperial County Planning & Development Services Department, 801 Main Street, El Centro, CA 92243

3. **Contact person and phone number:** Patricia Valenzuela, Planner IV, 442-265-1749

4. **Project location:** The Wister Solar Energy Facility Project consists of four primary components: 1) solar generation equipment and associated facilities (herein referred to as "solar energy facility"); 2) gen-tie line that would connect the proposed on-site substation to the Point of Interconnection (POI) at the existing Imperial Irrigation District's (IID) 92 kilovolt (kV) "K" line; 3) fiberoptic cable; and, 4) upgrades to off-site IID facilities (92-kV line from New Mecca to the North Shore substation, and Niland substation). These components are collectively referred to as the "proposed project" or "project."

   - ***Solar Energy Facility and Gen-Tie Line.*** The project site is located approximately three miles north of Niland, a census-designated place, in the unincorporated area of Imperial County (Figure 1). The project site is located on one parcel of land identified as Assessor's Parcel Number 003-240-001 (Figure 2). The parcel is approximately 640 acres and is currently zoned Open Space/Preservation with a geothermal overlay (S-2-G). The proposed project would be located on approximately 100 acres, in the northwest portion of the 640-acre parcel. The project site is located east of the intersection of Wilkins Road and an unnamed county road. The project footprint (where proposed project components are to be located) is generally located east of Wilkins Road, north of the East Highline Canal, and west of Gas Line Road.

   - ***Fiberoptic Cable.*** The proposed project includes approximately two miles of fiberoptic line from the proposed on-site substation to the existing Niland Substation, located at 402 Beal Road in Niland.

   - ***Off-Site IID Facilities.*** The 92-kV line from New Mecca to the North Shore substation is located north of the Salton Sea in southeastern Riverside County. The North Shore Substation is located at the northeast corner of Club View Drive and Windlass Drive in the census-designated place of North Shore. The New Mecca Substation is located at the northeast corner of Hammond Road and Johnson Street in the unincorporated community of Mecca. The Niland substation is located at 402 Beal Road in Niland.

5. **Project sponsor's name and address:** ORNI 21, LLC, 6140 Plumas Street, Reno, Nevada 89519

6. **General Plan designation:** Recreation

7. **Zoning:** Open Space/Preservation with a geothermal overlay (S-2-G)

8. **Description of project:** The proposed Wister Solar Energy Facility Project involves the construction and operation of a 20 Megawatt (MW) photovoltaic (PV) solar energy facility on approximately 100 acres of privately-owned land north of Niland. The proposed project would be comprised of solar PV panels on single-axis horizontal trackers, an on-site substation and inverters, transformers, and underground electrical cables. The proposed

project also includes approximately two miles of fiberoptic line from the proposed on-site substation to the existing Niland Substation to connect the proposed Wister Substation to the region's telecommunications system.

The power produced by the proposed project would be conveyed to the local power grid via an on-site 92-kV substation, which will be tied directly to IID's 92-kV transmission line. A gen-tie line would connect the Wister substation to the POI at the existing IID 92-kV "K" line. The project applicant has secured a Power Purchase Agreement with San Diego Gas and Electric for the sale of power from the project.

In order to support the proposed project, IID will need to upgrade ± 5 miles of the existing 92-kV line from New Mecca to the North Shore substation. This upgrade would consist of removal of the existing wood poles and installing new wood poles within the same disturbed right of way. In addition, the existing 795 all-aluminum conductor (AAC) conductor would be upgraded to 1033 AAC conductor, and new insulators, fittings, and hardware would be installed on the upgraded poles. IID would upgrade relay protection, control, Supervisory Control and Data Acquisition, and telecommunication capabilities for the 92-kV gen-tie and terminals at the New Mecca and Niland substations in support of the project.

9. **Surrounding land uses and setting: Briefly describe the project's surroundings:** The project site is generally surrounded to the north, east, and south by vacant land. A private road and the East Highline Canal border the project site to the south. Existing transmission lines border the project site to the east. An agricultural field lies to the northwest of the project site.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):**

    - Department of Public Works – Ministerial permits (building, grading, encroachment)
    - Imperial County Air Pollution Control District – Fugitive dust control plan, Authority to construct
    - California Regional Water Quality Control Board – Notice of Intent for General Construction Permit

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

    Yes, the Torrez Martinez Desert Cahuilla Indians and Quechan Indian Tribe. These tribes were sent an AB 52 and SB 18 consultation request letter.

Environmental Factors Potentially Affected

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

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

Environmental Evaluation Committee Determination

After Review of the Initial Study, the Environmental Evaluation Committee (EEC) has:

- ☐ Found that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ Found 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.
- ☐ Found that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ Found 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.
- ☐ Found 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.

CALIFORNIA DEPARTMENT OF FISH AND GAME DE MINIMIS IMPACT FINDING:

☐Yes ☐No

EEC VOTES	YES	NO	ABSENT
PUBLIC WORKS	☐	☐	☐
ENVIRONMENTAL HEALTH	☐	☐	☐
OFFICE EMERGENCY SERVICES	☐	☐	☐
APCD	☐	☐	☐
AG	☐	☐	☐
SHERIFF DEPARTMENT	☐	☐	☐
ICPDS	☐	☐	☐

Signature

Date:

Project Summary

Project Location

The Wister Solar Energy Facility Project consists of four primary components: 1) solar generation equipment and associated facilities (herein referred to as "solar energy facility"); 2) gen-tie line that would connect the proposed on-site substation to the POI at the existing IID's 92-kV "K" line; 3) fiberoptic cable; and, 4) upgrades to off-site IID facilities (92-kV line from New Mecca to the North Shore substation, and Niland substation). These components are collectively referred to as the "proposed project" or "project."

- **Solar Energy Facility and Gen-Tie Line.** The project site is located approximately three miles north of Niland, a census-designated place, in the unincorporated area of Imperial County (Figure 1). The project site is located on one parcel of land identified as Assessor's Parcel Number 003-240-001 (Figure 2). The parcel is approximately 640 acres and is currently zoned Open Space/Preservation with a geothermal overlay (S-2-G). The proposed project would be located on approximately 100 acres, in the northwest portion of the 640-acre parcel. The project site is located east of the intersection of Wilkins Road and an unnamed county road. The project footprint (where proposed project components are to be located) is generally located east of Wilkins Road, north of the East Highline Canal, and west of Gas Line Road.
- **Fiberoptic Cable.** The proposed project includes approximately two miles of fiberoptic line from the proposed on-site substation to the existing Niland Substation, located at 402 Beal Road in Niland.
- **Off-Site IID Facilities.** The 92-kV line from New Mecca to the North Shore substation is located north of the Salton Sea in southeastern Riverside County. The North Shore Substation is located at the northeast corner of Club View Drive and Windlass Drive in the census-designated place of North Shore. The New Mecca Substation is located at the northeast corner of Hammond Road and Johnson Street in the unincorporated community of Mecca. The Niland substation is located at 402 Beal Road in Niland.

Project Summary

The proposed Wister Solar Energy Facility Project involves the construction and operation of a 20 MW PV solar energy facility on approximately 100 acres of privately-owned land north of Niland. The proposed project would be comprised of solar PV panels on single-axis horizontal trackers, an on-site substation and inverters, transformers, and underground electrical cables. The proposed project also includes approximately two miles of fiberoptic line from the proposed on-site substation to the existing Niland Substation to connect the proposed Wister Substation to the region's telecommunications system.

The power produced by the proposed project would be conveyed to the local power grid via an on-site 92-kV substation, which will be tied directly to IID's 92-kV transmission line. A gen-tie line would connect the Wister substation to the POI at the existing IID 92-kV "K" line. The project applicant has secured a Power Purchase Agreement with San Diego Gas and Electric for the sale of power from the project.

In order to support the proposed project, IID will need to upgrade ± 5 miles of the existing 92-kV line from New Mecca to the North Shore substation. This upgrade would consist of removal of the existing wood poles and installing new wood poles within the same disturbed right of way. In addition, the existing 795 AAC conductor would be upgraded to 1033 AAC conductor, and new insulators, fittings, and hardware would be installed on the upgraded poles. IID would upgrade relay protection, control, Supervisory Control and Data Acquisition, and telecommunication capabilities for the 92-kV gen-tie and terminals at the New Mecca and Niland substations in support of the project.

Environmental Setting

The project site is generally surrounded to the north, east, and south by vacant land. A private road and the East Highline Canal border the project site to the south. Existing transmission lines border the project site to the east. An agricultural field lies to the northwest of the project site.

General Plan Consistency

The proposed project is located within the unincorporated area of Imperial County. The existing General Plan land use designation is “Recreation.” The project site is currently zoned Open Space/Preservation with a geothermal overlay (S-2-G). Construction of a solar facility would be allowed within the existing zoning under a Conditional Use Permit.

Figure 1. Regional Location

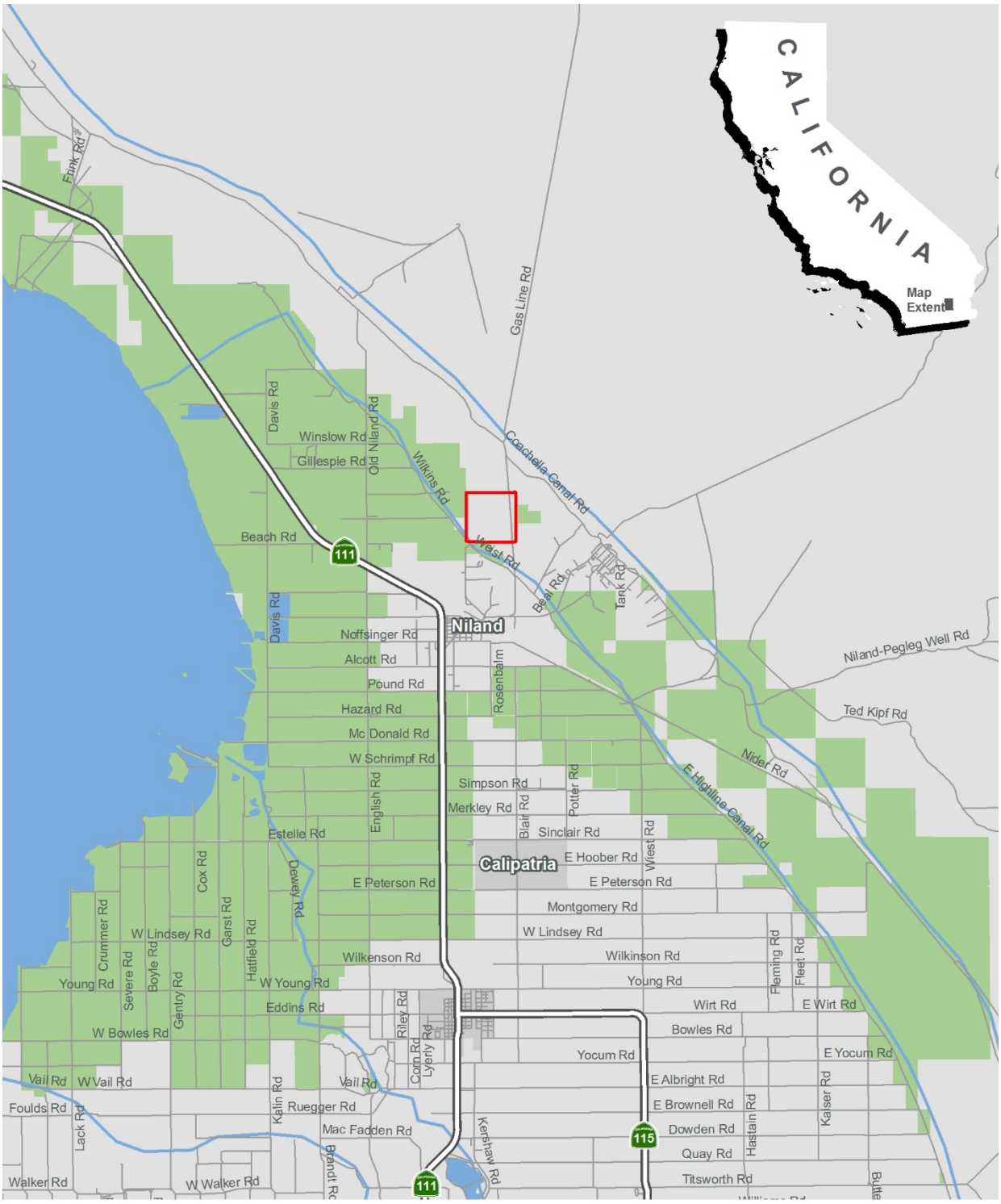

Figure 2. Project Site

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

a. Earlier Analysis Used. Identify and state where they are available for review.

b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:

a. The significance criteria or threshold, if any, used to evaluate each question; and

b. The mitigation measure identified, if any, to reduce the impact to less than significance.

I. Aesthetics

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
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 building within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

Impact Analysis

a) **No Impact.** The project site is not located within an area that has been formally designated as a federal, state, or county scenic vista. No scenic vistas or areas with high visual quality would be disrupted. Thus, no impact is identified for this issue area.

b) **No Impact.** According to the Caltrans California Scenic Highway Mapping System (Caltrans 2011), the project site is not located within a state scenic highway corridor, nor are there any state scenic highways located in proximity to the project site.

c) **Potentially Significant Impact.** Although the project is not located near a scenic highway or designated scenic vista, the proposed project may result in a change to the look and rural character of the area. A potentially significant impact is identified, and this issue will be addressed in the EIR.

d) **Potentially Significant Impact.** The proposed project would not include any source of substantial nighttime lighting. Any lighting required for safety and security within the project site would be shielded and oriented downward. The project is located in a rural undeveloped area of Imperial County. There are no established residential neighborhoods immediately adjacent to the project site. The Chocolate Mountains are located to the north and east of the project site. The Chocolate Mountains are used by the United States Marine Corps for training purposes. Although the solar panels will be constructed of low reflective materials, the potential for glare to impact United States Marine Corps aircraft will be analyzed further in the EIR. Therefore, a potentially significant impact is identified for this issue area.

II. Agriculture and Forestry Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to 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?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** According to the farmland maps prepared by the California Department of Conservation (2016), the project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The proposed project would not convert Important Farmland. Therefore, no impact is identified for this issue area.

b) **No Impact.** The project site is currently designated by the General Plan as "Recreation" and is zoned Open Space/Preservation with a geothermal overlay (S-2-G). According to the 2016/2017 Imperial County Williamson Act Map produced by the California Department of Conservation's Division of Land Resource

Protection, the project site is not located on Williamson Act contracted land. The proposed project has no potential to conflict with existing zoning for agricultural use or a Williamson Act contract. Therefore, no impact is identified for this issue area.

c) **No Impact.** There are no existing forest lands, timberlands, or timberland zoned “Timberland Production” either on site or in the immediate vicinity that would conflict with existing zoning or cause rezoning. Therefore, no impact is identified for this issue area.

d) **No Impact.** There are no existing forest lands either on site or in the immediate vicinity of the project site. The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, no impact is identified for this issue area.

e) **No Impact.** As discussed in Response II. a) above, the project site does not contain any lands mapped by the California Department of Conservation as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The project site is not used for agricultural production. Implementation of the proposed project would not convert any farmland to non-agricultural uses. Therefore, no impact is identified for this issue area.

III. Air Quality

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☒	☐	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☐	☒

Impact Analysis

a) **Potentially Significant Impact.** The project site is located within the jurisdiction of Imperial County Air Pollution Control District in the Salton Sea Air Basin. Construction of the project would create temporary emissions of dust, fumes, equipment exhaust, and other air contaminants that may conflict with the Imperial County Air Pollution Control District's rules and regulations. No station source emissions are proposed from the project; however, temporary construction emissions have the potential to result in a significant air quality impact.

b) **Potentially Significant Impact.** Currently, the Salton Sea Air Basin is either in attainment or unclassified for all federal and state air pollutant standards, with the exception of O_3 (8-hour) and PM_{10} (total suspended particulate matter less than 10 microns in diameter). Air pollutants transported into the Salton Sea Air Basin from the adjacent South Coast Air Basin (Los Angeles County, San Bernardino County, Orange County, and Riverside County) and Mexicali (Mexico) substantially contribute to the non-attainment conditions in the Salton Sea Air Basin. A potentially significant impact is identified for this issue area. An air quality impact study that will address the proposed project's potential air quality impacts will be prepared and included in the EIR analysis.

c) **Potentially Significant Impact.** The project site is located in a rural agricultural area of Imperial County. Sensitive receptors located within one mile of the project site consist of a few scattered rural homes along Wilkins Road. This issue will be addressed in the air quality impact study and EIR analysis.

d) **No Impact**. Land uses commonly considered to be potential sources of odorous emissions include wastewater treatment plants, sanitary landfills, food processing facilities, chemical manufacturing plants, rendering plants, paint/coating operations, and concentrated agricultural feeding operations and dairies. The construction and operation of a solar facility is not an odor producer and the project site is not located near an odor producer. No impact is identified for this issue area.

IV. Biological Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
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 state or federally protected wetlands (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 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?	☐	☐	☐	☒

Impact Analysis

a) **Potentially Significant Impact.** The project site has the potential to support native habitats and/or sensitive species. Burrowing owls and burrows are commonly found along canals and drains. Although there are no IID canals located within the project site, access roads, canals, and other drainages are located in the project vicinity. Flat-tailed horned lizard may also have the potential to occur on the project site. Thus, a potentially significant impact is identified for this issue area. A biological resources technical study that will address the proposed project's potential impacts on biological resources will be prepared and included in the EIR analysis.

b) **Potentially Significant Impact.** Blue palo verde – ironwood woodland occurs in the northwest portion of the project site. This vegetation community is considered a sensitive natural community by the California Department of Fish and Wildlife (CDFW). The proposed project could potentially result in direct or indirect impacts to this vegetation community. Thus, a potentially significant impact is identified for this issue area. A biological resources technical study that will address the proposed project's potential impacts on biological resources will be prepared and included in the EIR analysis.

c) **Potentially Significant Impact.** The project site contains braided drainage channels that could potentially be considered jurisdictional waters by CDFW and United States Army Corps of Engineers (USACE). A jurisdictional waters/wetlands delineation report will be prepared and included in the EIR analysis.

d) **Potentially Significant Impact.** Refer to Response IV. a) above.

e) **Potentially Significant Impact.** Refer to Response IV. a) above.

f) **No Impact.** The project site is not located in a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impact is identified for this issue area.

V. Cultural Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☒	☐	☐	☐

Impact Analysis

a) **Potentially Significant Impact.** The project parcel is currently vacant land. Road construction, off-road activity and the construction of the Coachella Canal have disturbed the project parcel to varying degrees. Thus, the presence of significant or undamaged cultural resources on the site is unlikely; however, cultural resources have been identified in proximity to the site. Although the proposed project is not expected to cause a substantial adverse change in the significance of a historical resource or archaeological resource, this issue will be analyzed further in the EIR. Therefore, a potentially significant impact is identified for this issue area. A cultural resources report that will address the proposed project's potential impacts on historic and prehistoric resources will be prepared and included in the EIR analysis.

b) **Potentially Significant Impact.** Refer to Response V. a) above.

c) **Potentially Significant Impact.** Although unlikely, there is a potential for unknown human remains to be unearthed during earthwork activities. This issue is potentially significant and will be discussed in the EIR.

VI. Energy

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Impact Analysis

a) **Less than Significant Impact.** The use of energy associated with the project include both construction and operational activities. Construction activities consume energy through the use of heavy construction equipment and truck and worker traffic. The proposed project will use energy-conserving construction equipment, including standard mitigation measures for construction combustion equipment recommended in the Imperial County Air Pollution Control District (ICAPCD) CEQA Air Quality Handbook. The use of better engine technology, in conjunction with the ICAPCD's standard mitigation measures will reduce the amount of energy used for the project.

Implementation and operation of the proposed project would promote the use of renewable energy and contribute incrementally to the reduction in demand for fossil fuel use for electricity-generating purposes. The project would generate renewable energy resources and is considered a beneficial effect.

Based on these considerations, the proposed project would not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. This is considered a less than significant impact.

b) **No Impact.** The project will help California meet its Renewable Portfolio Standard of 50 percent of retail electricity sales from renewable sources by the end of 2030.The electricity generation process associated with the project would utilize solar technology to convert sunlight directly into electricity. Solar PV technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resource Code. The proposed project would not conflict with or obstruct a state or local plan for renewable energy of energy efficiency. No Impact is identified for this issue area.

VII. Geology and Soils

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
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 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk 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?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐

Impact Analysis

ai) **No Impact.** The project site is not located within a State of California, Alquist-Priolo Earthquake Fault Zone. Therefore, no impact is identified for this issue area.

aii) **Potentially Significant Impact.** The project site is located within a seismically-active zone in Southern California and considered likely to be subjected to moderate to strong ground motion from earthquakes in the region. The project site could be affected by the occurrence of seismic activity to some degree but no more than the surrounding properties. A potentially significant impact has been identified for this issue, and it will be evaluated in the EIR.

aiii) **Less than Significant Impact.** Liquefaction occurs when granular soil below the water table is subjected to vibratory motions, such as produced by earthquakes. With strong ground shaking, an increase in pore water pressure develops as the soil tends to reduce in volume. If the increase in pore water pressure is sufficient to reduce the vertical effective stress (suspending the soil particles in water), the soil strength decreases, and the soil behaves as a liquid (similar to quicksand). Liquefaction can produce excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations.

Four conditions are generally required for liquefaction to occur:
1) The soil must be saturated (relatively shallow groundwater).
2) The soil must be loosely packed (low to medium relative density).
3) The soil must be relatively cohesionless (not clayey).
4) Groundshaking of sufficient intensity must occur to function as a trigger mechanism.

The project site is not located within a current, mapped California Liquefaction Hazard Zone. In addition, groundwater in the site vicinity is expected to be approximately greater than 49 feet below the ground surface. Based on the near surface soil conditions and depth to groundwater, the potential for liquefaction is low. This is considered a less than significant impact.

aiv) **No Impact.** According to Figure 2: Landslide Activity in the Seismic and Public Safety Element of the General Plan, the project site is not located in an area that is prone to landslide hazards. Furthermore, the project site and surrounding area is relatively flat. Therefore, no impact is identified for this issue area.

b) **Less than Significant Impact.** Soil erosion can result during construction as grading and construction can loosen surface soils and make soils susceptible to wind and water movement across the surface. Impacts are not considered significant because erosion would be controlled on-site in accordance with Imperial County standards including preparation, review, and approval of a grading plan by the Imperial County Engineer. Implementation of Imperial County standards would reduce the potential impacts to below a level of significance.

c) **Less than Significant Impact.** As discussed in Response VII. aiv) above, the project site and surrounding area is relatively flat and is not located in an area that is prone to landslide hazards.

Due to the low potential for liquefaction, the depth of groundwater, and the fact that the project site is not located near free faces or bodies of water, the potential for lateral spreading is considered low.

The project site is not located within a mapped area of known land subsidence. Due to the depth of groundwater and the fact that the project site is not located in a mapped subsidence area, the potential for subsidence is considered low.

As discussed in Response VII. aiii) above, the potential for liquefaction is low.

Based on these considerations, the project site is not located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project. This is considered a less than significant impact.

d) **Less than Significant Impact.** The soils on the project site are mostly sandy soils whose expansion potential is considered low. This is considered a less than significant impact.

e) **No Impact.** The proposed project would not require an operations and maintenance building. The proposed solar facility would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Therefore, no impact is identified for this issue area.

f) **Potentially Significant Impact.** Many paleontological fossil sites are recorded in Imperial County and have been discovered during construction activities. Paleontological resources are typically impacted when earthwork activities, such as mass excavation cut into geological deposits (formations) with buried fossils. It is not known if any paleontological resources are located on the project site. The project's potential to impact paleontological resources will be addressed in the EIR.

VIII. Greenhouse Gas Emissions

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Impact Analysis

a) **Potentially Significant Impact.** The proposed project has the potential to generate greenhouse gas emissions during construction, in addition to construction worker trips to and from the project site. A potentially significant impact is identified and will be evaluated in the EIR. In the long-term, the project is expected to provide a benefit with respect to reduction of greenhouse gas emissions. An air quality/ greenhouse gas emissions study will be prepared for the proposed project, and this issue will be addressed in the EIR.

b) **Less than Significant Impact.** The proposed project would help the state meet this goal by generating up to 20 MW of power to California's current renewable portfolio. Therefore, in this regard, the project would help the state meet its goals under AB 32. Neither the County of Imperial or ICAPCD have any specific plans, policies, nor regulations adopted for reducing the emissions of GHGs; however, since the long-term operational GHG emissions are minimal and the construction emissions are short-term, the project would not conflict with any applicable plan, policy, or regulation adopted for reducing the emissions of GHGs. Implementation of the proposed project would result in a less than significant impact associated with the potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHG.

IX. Hazards and Hazardous Materials

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely 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 two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

Impact Analysis

a) **Less than Significant Impact.** Construction of the project will involve the limited use of hazardous materials, such as fuels and greases to fuel and service construction equipment. No extremely hazardous substances are anticipated to be produced, used, stored, transported, or disposed of as a result of project construction. No operations and maintenance facilities, or habitable structures are proposed on-site. Operation of the project will be conducted remotely. Regular, routine maintenance of the project may result in the potential to handle hazardous materials. However, the hazardous materials handled on-site would be limited to small amounts of everyday use cleaners and common chemicals used for maintenance. The applicant will be required to comply with State laws and County Ordinance restrictions, which regulate and

control hazardous materials handled on-site. Such hazardous wastes would be transported off-site for disposal according to applicable State and County restrictions and laws governing the disposal of hazardous waste during construction and operation of the project. Therefore, this is considered a less than significant impact.

b) **Less than Significant Impact.** Refer to response X. a) above.

c) **No Impact.** The project site is not located within 0.25 mile of an existing or proposed school. No impact is identified for this issue area.

d) **No Impact.** Based on a review of the Cortese List conducted in October 2019, the project site is not listed as a hazardous materials site. No impact is identified for this issue area.

e) **No Impact.** The project site is not located within two miles of a public airport or public use airport. Therefore, the proposed project would not result in airport hazards for people residing or working in the project area.

f) **Less than Significant Impact.** The proposed project is not expected to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project applicant will be required, through the conditions of approval, to prepare a street improvement plan for the project that will include emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Therefore, the proposed project would result in a less than significant impact associated with the possible impediment to emergency plans.

g) **Less than Significant Impact.** The project site is located in the unincorporated area of Imperial County According to the Seismic and Public Safety Element of the General Plan, the potential for a major fire in the unincorporated areas of the County is generally low. This is considered a less than significant impact.

X. Hydrology and Water Quality

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☒	☐	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☒	☐	☐	☐

Impact Analysis

a) **Potentially Significant Impact.** The proposed project has the potential to create urban non-point source discharge (e.g., synthetic/organic chemicals). Potentially significant water quality impacts have been identified and will be addressed in the EIR.

b) **Less than Significant Impact.** During construction, potable water would be brought to the site for drinking and domestic needs, while construction water would be brought to the site for soil conditioning and dust

suppression. During operations, potable water would be trucked onto the project site. Because the solar panels will be pole-mounted above ground, they are not considered “hardscape”, such as roads, building foundations, or parking areas, as they do not require a substantial amount of impervious material. The panels and their mounting foundation would not impede groundwater recharge. Impacts would be less than significant.

ci) **Less than Significant Impact.** The proposed project would not substantially alter the existing drainage pattern of the site. It is anticipated that the proposed drainage patterns would be similar to the existing site conditions. The project applicant would be required to implement on-site erosion control measures in accordance with County standards, which require the preparation, review, and approval of a grading plan by the County Engineer. The proposed project would not result in substantial erosion or siltation on- or off-site. This is considered a less than significant impact.

cii) **Less than Significant Impact.** The proposed project is not anticipated to generate a significant increase in the amount of runoff water from water use involving solar panel washing. Water will continue to percolate through the ground, as a majority of the surfaces on the project site will remain pervious. The proposed project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite. This is considered a less than significant impact.

ciii) **Less than Significant Impact.** The proposed project is not anticipated to generate a significant increase in the amount of runoff water from water use involving solar panel washing. Water will continue to percolate through the ground, as a majority of the surfaces on the project site will remain pervious. The proposed project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. This is considered a less than significant impact.

civ) **No Impact.** According to the Federal Emergency Management Agency Flood Insurance Rate Map (Panel 06025C0425C), the project site is located in Zone X, which is an area determined to be outside of the 0.2 percent annual chance of a flood. The project does not propose the placement of structures within a 100-year flood hazard area. Therefore, the proposed project would not impede or redirect flood flows and no impact is identified for this issue area.

d) **No Impact.** The project site is not located near any large bodies of water. The Salton Sea is located approximately 10 miles west of the project site. Furthermore, the project site is over 100 miles inland from the Pacific Ocean. In addition, the project site is relatively flat. Therefore, there is no potential for the project site to be inundated by seiches or tsunamis.

e) **Potentially Significant Impact.** Refer to Response X. a) above.

XI. Land Use and Planning

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐

Impact Analysis

a) **No Impact.** The project site is located in a sparsely populated portion of Imperial County. There are no established residential communities located within or in the vicinity of the project site. Therefore, implementation of the proposed project would not divide an established community and no impact would occur.

b) **Potentially Significant Impact.** Implementation of the project would require the approval of a CUP by the County to allow for the construction and operation of the proposed solar energy facility project. The project site is located on one privately-owned legal parcel zoned Open Space/Preservation (S-2-G). Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County: Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:

- Electrical generation plants
- Facilities for the transmission of electrical energy (100-200 kV)
- Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)

The County Land Use Ordinance, Division 17, includes the Renewable Energy Overlay Zone, which authorizes the development and operation of renewable energy projects, with an approved CUP. CUP applications proposed for specific renewable energy projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone. As shown on Figure 1, the project site is located outside of the Renewable Energy Overlay Zone. Therefore, the project requires a General Plan Amendment and Zone Change to include/classify the project site into the RE Overlay Zone. The proposed General Plan Amendment and Zone Change may result in a conflict with an applicable land plan, policy, or regulation. A potentially significant impact has been identified for this issue, and this issue will be addressed in the EIR.

A variance is required to exceed the height limit for transmission towers within the S-2 zone. The existing S-2 zone allows a maximum height limit of 40 feet; whereas implementation of the project may involve the construction of transmission towers of up to 70 feet in height. This issue will be addressed in the EIR.

XII. Mineral Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** The project site is not used for mineral resource production. According to Figure 8: Imperial County Existing Mineral Resources of the Conservation and Open Space Element of the General Plan, no known mineral resources occur within the project site nor does the project site contain mapped mineral resources. Therefore, the proposed project would not result in the loss of availability of any known mineral resources that would be of value to the region and the residents of California nor would the proposed project result in the loss of availability of a locally important mineral resource.

b) **No Impact.** Refer to Response XIII. a) above.

XIII. Noise

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Impact Analysis

a) **Less than Significant Impact.** The Imperial County Title 9 Land Use Ordinance, Division 7, Chapter 2, Section 90702.00 - Sound level limits, establishes one-hour average sound level limits for the County's land use zones. Agricultural/industrial operations are required to comply with the noise levels prescribed under the general industrial zones. Therefore, the project is required to maintain noise levels below 75 decibels (dB) (averaged over one hour) during any time of day. The project would be expected to comply with the Noise Element of the General Plan which states that construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB, when averaged over an eight hour period, and measured at the nearest sensitive receptor. Construction equipment operation is also limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m.

b) **Less than Significant Impact.** Groundborne vibration and groundborne noise could originate from earth movement during the construction phase of the proposed project. However, significant vibration is typically associated with activities such as blasting or the use of pile drivers, neither of which would be required during project construction. The project would be expected to comply with all applicable requirements for long-term operation, as well as with measures to reduce excessive groundborne vibration and noise to ensure that the project would not expose persons or structures to excessive groundborne vibration. No further analysis is warranted.

c) **No Impact.** The project site is not located within two miles of a public airport or private airstrip. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels. No impact is identified for this issue area.

XIV. Population and Housing

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** Development of housing is not proposed as part of the project. No full-time employees are required to operate the project. The project facility will be monitored remotely. It is anticipated that maintenance of the facility will require minimal site presence to perform periodic visual inspections and minor repairs. On intermittent occasions, the presence of additional workers may be required for repairs or replacement of equipment and panel cleaning; however, due to the nature of the facility, such actions will likely occur infrequently. Therefore, the proposed project would not result in a substantial growth in the area, as the number of employees required to operate and maintain the facility is minimal. No impact is identified for population and housing.

b) **No Impact.** No housing exists within the project site and no people reside within the project site. Therefore, the proposed project would not displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere. No impact is identified for this issue area.

XV. Public Services

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire Protection?	☐	☐	☒	☐
ii. Police Protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

Impact Analysis

ai) **Less than Significant Impact.** Fire protection and emergency medical services in the area are provided by the Imperial County Fire Department. The project site is located in the unincorporated area of Imperial County According to the Seismic and Public Safety Element of the General Plan, the potential for a major fire in the unincorporated areas of the County is generally low. Both the access and service roads (along the perimeter of the project facility) would have turnaround areas to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and 20-foot-wide access road). Based on these considerations, the project would not result in a need for fire facility expansion and a less than significant impact is identified for this issue area.

aii) **Less than Significant Impact.** Police protection services in the project area is provided by the Imperial County Sheriff's Department. Although the potential is low, the proposed project may attract vandals or other security risks. The increase in construction related traffic could increase demand on law enforcement services. However, the project site would be fenced with 6-foot high chain link security fence topped with barbed wire and points of ingress/egress would be accessed via locked gates. In addition, periodic on-site personnel visitations for security would occur during operations and maintenance of the proposed project, thereby minimizing the need for police surveillance. This is considered a less than significant impact.

aiii) **No Impact.** The proposed project does not include the development of residential land uses that would result in an increase in population or student generation. Construction of the proposed project would not result in an increase in student population within the Imperial County's School District since it is anticipated that construction workers would commute in during construction operations. The proposed project would have no impact on Imperial County schools. No further analysis is warranted.

aiv) **No Impact.** No full-time employees are required to operate the project. The project facility will be monitored remotely. It is anticipated that maintenance of the facility will require minimal site presence to perform periodic visual inspections and minor repairs. Therefore, substantial permanent increases in population that would adversely affect local parks is not expected. The project is not expected to have an impact on parks. Therefore, no further analysis of these issue areas is warranted.

av) **No Impact.** No full-time employees are required to operate the project. The project facility will be monitored remotely. It is anticipated that maintenance of the facility will require minimal site presence to perform periodic visual inspections and minor repairs. Therefore, substantial permanent increases in population that would adversely affect libraries and other public facilities (such as post offices) are not expected. The project

is not expected to have an impact on other public facilities such as post offices, and libraries. Therefore, no further analysis of these issue areas is warranted.

XVI. Recreation

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** The project site is not used for formal recreational purposes. Also, the proposed project would not generate new employment on a long-term basis. As such, the project would not significantly increase the use or accelerate the deterioration of regional parks or other recreational facilities. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in the use of parks. Additionally, the project does not include or require the expansion of recreational facilities. No impact will occur and no further analysis is warranted.

b) **No Impact.** Refer to Response XVII. a) above.

XVII. Transportation

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☒	☐	☐	☐
b) Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

Impact Analysis

a) **Potentially Significant Impact.** Construction of the project would result in a small increase of traffic consisting of construction trucks and construction employee vehicular trips to the area, which may result in a potentially significant impact. This issue will be addressed in the EIR.

b) **No Impact.** This threshold is not applicable until 2020. No impact would occur and no further analysis is warranted.

c) **Less than Significant Impact.** To accommodate emergency access, PV panels would be spaced to maintain proper clearance. A 20-foot wide access road would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. The internal access road would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. These access roads would not increase hazards because of design features or incompatible uses and a less than significant impact is identified. Furthermore, a haul truck route study will be required which will determine the appropriate construction route.

d) **Less than Significant Impact.** To accommodate emergency access, PV panels would be spaced to maintain proper clearance. A 20-foot wide access road would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. The internal access road would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. The access and service roads would also have turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and 20-foot-wide access road). Based on this context, impacts are considered less than significant.

XVIII. Tribal Cultural Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	☒	☐	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☒	☐	☐	☐

Impact Analysis

a-b) **Potentially Significant Impact.** Assembly Bill 52 was passed in 2014 and took effect July 1, 2015. It established a new category of environmental resources that must be considered under CEQA called tribal cultural resources (Public Resources Code 21074) and established a process for consulting with Native American tribes and groups regarding those resources. Assembly Bill 52 requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.

Imperial County will consult with appropriate tribes with the potential for interest in the region. This issue will be further analyzed in the EIR.

XIX. Utilities and Service Systems

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☒	☐	☐	☐
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Impact Analysis

a) **Less than Significant Impact.** The proposed project would generate a minimal volume of wastewater during construction. During construction activities, wastewater would be contained within portable toilet facilities and disposed of at an approved site. No habitable structures are proposed on the project site (such as O&M buildings); therefore, there would be no wastewater generation from the proposed project. The proposed project would not require or result in the relocation or construction of new or expanded wastewater facilities.

The proposed project does not require expanded or new storm drainage facilities because the proposed solar facility would not generate a significant increase in the amount of impervious surfaces that would increase runoff during storm events. Water from solar panel washing would continue to percolate through the ground, as a majority of the surfaces within the project site would remain pervious. The proposed project would not require or result in the relocation or construction of new or expanded storm water facilities.

The proposed project is not anticipated to result in a significant increase in water demand/use; however, water will be needed for solar panel washing and dust suppression. Water would be trucked to the project site from a local water source (East Highline Canal). Therefore, the proposed project would not require or result in the relocation or construction of new or expanded water facilities.

The proposed project would not require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities.

Based on these considerations, a less than significant impact is identified for this issue area.

b) **Potentially Significant Impact.** Approximately 20,000 to 30,000 gallons of water per day would initially be required for grading, dropping to much less for the remainder of the project construction. Construction water needs would be limited to earthwork, soil conditioning, dust suppression, and compaction efforts. Estimated annual water consumption for operation and maintenance of the proposed project, including periodic PV module washing, would be approximately 0.81-acre feet annually (af/y), which would be trucked to the project site. Although the proposed project is not anticipated to result in a significant increase in water demand/use, this issue will be addressed in the EIR.

c) **Less than Significant Impact.** Refer to Response XIX. a) above.

d) **Less than Significant Impact.** Solid waste generation would be minor for the construction and operation of the project. Solid waste will be disposed of using a locally-licensed waste hauling service, most likely Allied Waste. Trash would likely be hauled to the Niland Solid Waste Site (13-AA-0009) located in Niland. The Niland Solid Waste Site has approximately 318,669 cubic yards of remaining capacity and is estimated to remain in operation through 2056 (CalRecycle n.d.). Therefore, there is ample landfill capacity in the County to receive the minor amount of solid waste generated by construction and operation of the project.

Additionally, because the proposed project would generate solid waste during construction and operation, the project will be required to comply with state and local requirements for waste reduction and recycling; including the 1989 California Integrated Waste Management Act and the 1991 California Solid Waste and Recycling Access Act of 1991. Also, conditions of the CUP will contain provisions for recycling and diversion of Imperial County construction waste policies. A less than significant impact is identified for this issue area.

e) **Less than Significant Impact.** Refer to Response XIX. d) above.

XX. Wildfire

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** According to the Draft Fire Hazard Severity Zone Map for Imperial County prepared by the California Department of Forestry and Fire Protection, the project site is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2007). Therefore, the proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan. No impact is identified for this issue area.

b) **No Impact.** The project site is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2007). Therefore, the proposed project would not exacerbate wildfire risks. No impact is identified for this issue area.

c) **No Impact.** The project site is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2007). The proposed project would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that would may result in temporary or ongoing impacts to the environment. No impact is identified for this issue area.

d) **No Impact.** The project site is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2007). The proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. No impact is identified for this issue area.

XXI. Mandatory Findings of Significance

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
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?	☒	☐	☐	☐

Impact Analysis

a) **Potentially Significant Impact.** The proposed project has the potential to result in significant environmental effects on biological resources and cultural resources, which could directly or indirectly cause adverse effects on the environment. These issues will be further evaluated in the EIR.

b) **Potentially Significant Impact.** Implementation of the proposed project has the potential to result in impacts related to: aesthetics, air quality, sensitive biological resources, cultural resources, paleontological resources, geology/soils, greenhouse gas emissions, hydrology and water quality, transportation/circulation impacts, and water supply. The proposed project has the potential to result in cumulative impacts with regards to the identified issue areas. Cumulative impacts will be discussed and further analyzed in the EIR.

c) **Potentially Significant Impact.** Implementation of the proposed project has the potential to result in impacts related to: air quality and geology/soils. These potential environmental effects could cause substantial adverse effects on human beings. These issues will be further evaluated in the EIR.

Comment Letters Received on Notice of Preparation

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

November 14, 2019

Patricia Valenzuela
Imperial County
801 Main Street
El Centro, CA 92243

RE: SCH# 2019110140, Wister Solar Energy Facility Project, Imperial County

Dear Ms. Valenzuela:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address:

Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Staff Services Analyst

cc: State Clearinghouse

IID

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December 10, 2019

Ms. Patricia Valenzuela
Planner IV
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: NOP of a Draft EIR for the Orni 21, LLC Wister Solar Energy Facility Project

Dear Ms. Valenzuela:

On November 12, 2019, the Imperial Irrigation District received from the Imperial County Planning & Development Services Dept. a request for agency comments on the Notice of Preparation of a Draft Environmental Impact Report for the Wister Solar Energy Facility Project. The applicant, Orni 21, LLC, is proposing to develop a 20MW photovoltaic energy generation facility on a 100 acres of a 640-acre parcel generally located about 3 miles north of the townsite of Niland, California.

The Imperial Irrigation District has reviewed the information and has the following comments:

1. The project plans to interconnect to the IID's 92kV "K" transmission line via a generation tie-in line along the east portion of parcel APN 003-240-001 on approximately 100 acres of the 640 acres parcel. To serve the project's temporary construction and permanent power requirements for the project's substation, there may be a need to under build the 92kV gen-tie with 12kV rated conductor.

2. For distribution-rated electrical service for the project, the applicant should be advised to contact Ignacio Romo, IID Customer Project Development Planner, at (760) 482-3426 or e-mail Mr. Romo at igromo@iid.com to initiate the customer service application process. In addition to submitting a formal application (available for download at the district website http://www.iid.com/home/showdocument?id=12923), the applicant will be required to submit a complete set of approved plans (including CAD files), project schedule, estimated in-service date, one-line diagram of facility, electrical loads, panel size, voltage, and the applicable fees, permits, easements and environmental compliance documentation pertaining to the provision of temporary and permanent electrical service to the project. The applicant shall be responsible for all costs and mitigation measures related to providing electrical service to the project.

3. Please note electrical capacity in the area is limited and a circuit study will be required to determine the project's impact to the distribution system. If the study determines any distribution system upgrades are needed to serve the project, the applicant shall be financially responsible for those upgrades.

4. Developer should be advised that for specific technical concerns regarding the interconnection to IID's 92kV "K" transmission line to contact Carlos Alfaro, IID Transmission Engineering Supervisor at (760) 482-3483 or e-mail Mr. Alfaro at calfaro@iid.com.

5. IID water facilities that may be impacted include the East Highland Canal. The project site is located adjacent to and east of the East Highline Canal.

6. The applicant may not use IID's canal or drain banks to access the project site. Any abandonment of easements or facilities will be approved by IID based on systems (irrigation, drainage, power, etc.) needs.

7. The proposed project is located outside of IID's water service area and will be unable to receive IID water service. According to the terms of IID's 1932 federal water contract, only lands that are within the All-American Canal Service Area Boundary that have been included within the legal boundary of IID are eligible to receive water. Lands outside of the AAC Service Area Boundary or outside of the district boundary, may receive water from IID only if IID agrees to sell conserved water pursuant to a water conservation and transfer agreement. While these supplies are subject to even more constraints and approvals under the terms of the Quantification Settlement Agreement and various other related contracts, IID's Board of Directors is on record as indicating they are not in favor of any additional or new water transfers, which in and of themselves are complicated and tied to other existing contractual obligations. IID's water service area maps are available at https://www.iid.com/water/about-iid-water/water-service-maps. While all specific project inquiries should be directed to IID, these referenced maps may serve as a quick guide

8. Any construction or operation on IID property or within its existing and proposed right of way or easements including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities; will require an encroachment permit, or encroachment agreement (depending on the circumstances). A copy of the IID encroachment permit application and instructions are available for download at http://www.iid.com/departments/real-estate. The IID Real Estate Section should be contacted at (760) 339-9239 for additional information regarding encroachment permits or agreements.

9. An IID encroachment permit will be required to utilize existing surface-water drainpipe connections to drains and receive drainage service from IID. Surface-water drainpipe connections are to be modified in accordance with IID standards. A construction storm-water permit and an industrial storm water permit from the California Regional Water Quality Control Board are required for the construction and operation of the proposed facility. Copies of these permits and the project's Storm Water Pollution Prevention Plan are to be submitted to IID.

10. In addition to IID's recorded easements, IID claims, at a minimum, a prescriptive right of way to the toe of slope of all existing canals and drains. Where space is limited and depending upon the specifics of adjacent modifications, the IID may claim additional secondary easements/prescriptive rights of ways to ensure operation and maintenance of

IID's facilities can be maintained and are not impacted and if impacted mitigated. Thus, IID should be consulted prior to the installation of any facilities adjacent to IID's facilities. Certain conditions may be placed on adjacent facilities to mitigate or avoid impacts to IID's facilities.

11. Any new, relocated, modified or reconstructed IID facilities required for and by the project (which can include but is not limited to electrical utility substations, electrical transmission and distribution lines, etc.) need to be included as part of the project's CEQA and/or NEPA documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or modification of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully analyzed. **Any and all mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent**.

Should you have any questions, please do not hesitate to contact me at 760-482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas
Compliance Administrator II

Enrique B. Martinez – General Manager
Mike Pacheco – Manager, Water Dept.
Marilyn Del Bosque Gilbert – Manager, Energy Dept.
Jamie Asbury – Deputy Manager, Energy Dept., Operations
Enrique De Leon – Asst. Mgr., Energy Dept., Distr., Planning, Eng. & Customer Service
Vance Taylor – Asst. General Counsel
Robert Laurie – Asst. General Counsel
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Laura Cervantes. – Supervisor, Real Estate
Jessica Humes – Environmental Project Mgr. Sr., Water Dept.

COUNTY OF IMPERIAL

DEPARTMENT OF PUBLIC WORKS

155 S. 11th Street
El Centro, CA
92243

Tel: (442) 265-1818
Fax: (442) 265-1858

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December 17, 2019

Mr. Jim Minnick, Director
Planning & Development Services Department
801 Main Street
El Centro, CA 92243

Attention: Patricia Valenzuela, Planner IV

SUBJECT: **CUP 18-0040 for Wister Solar Energy Facility Project**;
Located approximately three miles north of Niland, CA.
APN 003-240-001

Dear Mr. Minnick:

This letter is in response to your submittal received by this department on November 6, 2019 for the above mentioned project. The applicant is proposing the construction and operation of a 20 Megawatt (MW) photovoltaic (PV) solar energy facility on approximately 100 acres being comprised of solar PV panels on single-axis horizontal trackers, an on-site substation and inverters, transformers, and underground electrical cables. It also includes approximately two miles of fiber optic line from the proposed on-site substation to the existing Niland Substation to connect the proposed telecommunications system.

Department staff has reviewed the package information and the following comments shall be Conditions of Approval:

1. Cuff Road is classified as Local County (Residential) - two (2) lanes, requiring sixty feet (60) of right of way, being thirty (30) feet from existing centerline. It is required that sufficient right of way be provided to meet this road classification. **As directed by Imperial County Board of Supervisors per Minute Order #6 dated 11/22/1994 per the Imperial County Circulation Element Plan of the General Plan)**.

2. Wilkins Road is classified as Minor Collector – Local Collector, two (2) lanes, requiring seventy feet (70) of right of way, being thirty five (35) feet from existing centerline. It is required that sufficient right of way be provided to meet this road classification. As directed by Imperial County Board of Supervisors per Minute Order #6 dated 11/22/1994 per the Imperial County Circulation Element Plan of the General Plan).

3. According to the County of Imperial Codified Ordinances, any site plan submitted with an application for permitting shall show the dimensions, which includes bearings, of all property lines. All distances from the property line(s) to the structures shall also be shown on the site plan. The applicant shall revise the site plan and resubmit at the earliest convenience.

4. The access road on the east side of the property connecting to Cuff Road (Gas Line Road) as illustrated on Figure 3-3 of the Project Description Document has the potential to encroach into Zone A of the FEMA Flood Insurance Map Panel 06025C0450C.

The findings of the Initial Study under Section X – Hydrology and Water Quality, Subsection c) iv, shall state that either no access roads will be constructed within the flood zone or that mitigation measures will be provided during the EIR.

5. Section XVII – Transportation, Subsection d), of the Initial Study refers to site emergency access and is evaluated as having Less than Significant Impacts. This section does not make a mention of access roads from the project site to County roads.

   The findings on Section XVII – Transportation, Subsection d), of the Initial Study shall include impacts the access road east of the project site to Cuff Road (Gas Line Road) and the two access roads west of the project site to Wilkins Road. This finding shall be revised to be Potentially Significant Impact.

Prior to development, the Developer shall meet the following requirements:

A. Any access roads to the project site shall abut to County roads. Access roads through private properties shall require easements from property owners.

B. Any activity and/or work within Imperial County right-of-way shall be completed under a permit issued by this Department (encroachment permit) as per Chapter 12.12 - Excavations on or Near a Public Road of the Imperial County Ordinance.

   a. Any activity and/or work may include, but not be limited to, the installation of temporary stabilized construction entrances, primary access driveways, secondary emergency access driveways, site fence installation, underground/overhead electrical crossings, road improvements, temporary traffic control, etc.

C. Corner record is required to be filed with the Imperial County Surveyor for monuments prior to construction:

   8771. (b) When monuments exist that control the location of subdivisions, tracts, boundaries, roads, streets, or highways, or provide horizontal or vertical survey control, the monuments shall be located and referenced by or under the direction of a licensed land surveyor or licensed civil engineer legally authorized to practice land surveying, prior to the time when any streets, highways, other rights-of-way, or easements are improved, constructed, reconstructed, maintained, resurfaced, or relocated, and a corner record or record of survey of the references shall be filed with the county surveyor.

D. A second corner record is required to be filed with the Imperial County Surveyor for monuments:

   8771. (c) A permanent monument shall be reset in the surface of the new construction or a witness monument or monuments set to perpetuate the location if any monument could be destroyed, damaged, covered, disturbed, or otherwise obliterated, and a corner record or record of survey shall be filed with the county surveyor prior to the recording of a certificate of completion for the project. Sufficient controlling monuments shall be retained or replaced in their original positions to enable property, right-of-way and easement lines, property corners, and subdivision and tract boundaries to be reestablished without devious surveys necessarily originating on monuments differing from those that currently control the area.

E. The Developer will be required to repair any damages caused to County roads by construction traffic during construction and maintain them in safe conditions.

F. All off-site improvements within Imperial County right-of-way shall be financially secured by either a road improvement bond or letter of credit prior to issuance of a grading permit, building permit, and encroachment permit.

G. Prior to the issuance of grading and building permits, the Developer shall complete the installation of temporary stabilized construction entrances and secondary emergency access driveways.

H. Prior to issuance of final certificate of occupancy, the Developer shall be responsible for repairing any damage caused to County roads and bridges during construction as determined by the Imperial County Road Commissioner.

I. The Developer shall furnish a Drainage and Grading Plan/Study to provide for property grading and drainage control, which shall also include prevention of sedimentation of damage to off-site properties. The Study/Plan shall be submitted to the Department of Public Works for review and approval. The Developer shall implement the approved plan. Employment of the appropriate Best Management Practices (BMP's) shall be included. (Per Imperial County Code of Ordinances, Chapter 12.10.020 B).

J. Any permanent structures shall be located outside of the ultimate County Right-of-Way.

K. Off-site improvements shall be constructed in compliance with the material specifications, horizontal/vertical alignments and notes of engineered approved project plans and shall conform to County of Imperial Department of Public Works Engineering Design Guidelines Manual.

L. On-site roads shall be constructed of compacted Class II Aggregate Base.

M. Primary and secondary emergency access driveways from paved roads shall be constructed of Asphalt Concrete Pavement. Primary and secondary emergency access driveways from unpaved roads shall be constructed of Class II Aggregate Base.

N. The Developer shall prepare and submit a haul route study for the proposed construction haul route to evaluate any impacts to County roads. Said study shall be submitted to this Department for review and approval. The haul route study shall include pictures and/or other documents to verify the existing conditions of the impacted County roads before construction begins. The haul route study shall also include recommended mitigation improvements to impacted County roads along with any fair share costs for such improvements.

O. The Developer shall enter into a Roadway Maintenance Agreement with the County of Imperial prior to issuance of a Certificate of Occupancy. The Developer shall provide financial security to maintain the roads on the approved haul route study during construction.

INFORMATIVE:

The following items are for informational purposes only. The Developer is responsible to determine if the enclosed items affect the subject project.

- All solid and hazardous waste shall be disposed of in approved solid waste disposal sites in accordance with existing County, State and Federal regulations (Per Imperial County Code of Ordinances, Chapter 8.72).

- All on-site traffic areas shall be hard surfaced to provide all weather access for emergency vehicles.

- The project may require a National Pollutant Discharge Elimination System (NPDES) permit and Notice of Intent (NOI) from the Regional Water Quality Control Board (RWQCB) prior to County approval of onsite grading plan (40 CFR 122.28).

- A Transportation Permit may be required from road agency(s) having jurisdiction over the haul route(s) for any hauls of heavy equipment and/or large vehicles which impose greater than legal loads on riding surfaces, including bridges. (Per Imperial County Code of Ordinances, Chapter 10.12 – Overweight Vehicles and Loads).

- As this project proceeds through the planning and the approval process, additional comments and/or requirements may apply as more information is received

Should you have any questions, please do not hesitate to contact this office. Thank you for the opportunity to review and comment on this project.

Respectfully,

By:

John A. Gay, PE
Director of Public Works

CY/dm

AUGUSTINE BAND OF CAHUILLA INDIANS

PO Box 846 84-481 Avenue 54 Coachella CA 92236
Telephone: (760) 398-4722
Fax (760) 369-7161
Tribal Chairperson: Amanda Vance
Tribal Vice-Chairperson: William Vance
Tribal Secretary: Victoria Martin

February 26, 2019

Joe Hernandez
Imperial County Planning & Development Services
801 Main Street
El Centro, CA 92243

Re: **Wister Solar Farm – Ormat Technologies, Inc.**

Dear Mr. Hernandez-

Thank you for the opportunity to offer input concerning the development of the above-identified project. We appreciate your sensitivity to the cultural resources that may be impacted by your project, and the importance of these cultural resources to the Native American peoples that have occupied the land surrounding the area of your project for thousands of years. Unfortunately, increased development and lack of sensitivity to cultural resources has resulted in many significant cultural resources being destroyed or substantially altered and impacted. Your invitation to consult on this project is greatly appreciated.

At this time we are unaware of specific cultural resources that may be affected by the proposed project. We encourage you to contact other Native American Tribes and individuals within the immediate vicinity of the project site that may have specific information concerning cultural resources that may be located in the area. We also encourage you to contract with a monitor who is qualified in Native American cultural resources identification and who is able to be present on-site full-time during the pre-construction and construction phase of the project. Please notify us immediately should you discover any cultural resources during the development of this project.

Very truly yours,

Victoria Martin

Tribal Secretary

Wister Solar Energy Facility

Visual Resources Technical Report

August 6, 2019

Prepared for:

ORNI 21, LLC
6140 Plumas Street
Reno, NV 89519

Prepared by:

Stantec Consulting Services, Inc.
100 California Street, Suite 1000
San Francisco, CA 94111

Sign-off Sheet

This document entitled Wister Solar Project Visual Resources Technical Report was prepared by Stantec Consulting Services Inc. (“Stantec”) for the account of ORNI 21, LLC (the “Client”). The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes.

Prepared by _____

Josh Hohn, AICP - Visual Resources Practice Lead

Technical Review by _____

Kaela Johnson – Visual Analyst

Independent Review by _____

Kevin Kohan – Senior Environmental Planner

Table of Contents

LIST OF FIGURES

1.0 INTRODUCTION

ORNI 21, LLC (ORNI) has retained the services of Stantec Consulting Services Inc. (Stantec) to prepare this technical report assessing the current surrounding conditions and to describe potential changes to the landscape resulting from the Wister Solar Energy Facility (Project) development. The Project would be located on a 640-acre parcel north of Niland in Imperial County, CA (see Figure 1). It would occupy 100 acres of that parcel (see Figure 2).

The 20-megawatt nameplate capacity Project would consist of 3.2 foot by 6.5-foot photovoltaic (PV) modules (or panels) on single-axis horizontal trackers in blocks that each hold 2,520 PV panels, with 90 modules in most rows. The panels would be oriented from east to west for maximum exposure and the foundation would be designed based on existing soil conditions. The PV modules are made of a poly-crystalline silicon semiconductor material encapsulated in glass. A 20-foot wide road with an all-weather surface would surround the panels, and the entire site would be surrounded by a 6-foot tall chain link fence topped with three strands of barbed wire.

The proposed Wister Substation would be a new 92/12 kV unstaffed, automated, low-profile substation. The dimensions of the fenced substation would be approximately 300 feet by 175 feet. The enclosed substation footprint would encompass approximately 1.2 acres of the Project parcel and be located immediately southwest of the solar field.

A proposed above-ground gen-tie line would connect the Wister substation to the Point of Interconnection (POI) at the existing IID 92kV “K” line, approximately 2,500 feet south of the southwest corner of the Project site, along Wilkins Road (see Figure 2). Steel poles, with maximum heights of 70 feet and 300-foot spans, would support the 92kV conductor and fiberoptic cable.

2.0 EXISTING CONDITIONS

The Project site is located within Assessor's Parcel No. 003-240-001, which is currently zoned S-2-G ("Open Space / Preservation" with a geothermal overlay) and designated "Recreational Open Space" by Imperial County's Zoning Map. The Project site is currently undeveloped, though multiple electrical transmission lines extend generally north-south adjacent to and near the Project site.

The Project site is located north-northeast of the intersection of Wilkins and Wiest Roads, about 3 miles north of the unincorporated town of Niland. Niland is the northernmost community within the agricultural portion of the Imperial Valley, which extends from the southeastern portion of the Salton Sea to the United States and Mexico border. The 45-mile-long and 20-mile-wide Salton Sea defines the landscape to the west of the Project site. Elevations within the Project site range from nearly 50 feet below sea level to 30 feet above mean sea level (amsl). With elevations extending to 277 feet below sea level, the Salton Sea sits comparatively lower in the landscape than the Project site, as does much of the agricultural land to the immediate west and south. To the north and east of the Project site are the Chocolate Mountains, which extend to heights of more than 2,000 feet amsl.

Because of this gradual downward slope from east to west, areas to the north and east of the Project site would be more likely to have views of the Project where not impeded by natural or built features. Viewers in this area are associated with land uses. Thus, potential viewers include workers traveling north/south on Gas Line Road, which extends north from Niland Avenue – near Imperial Irrigation District (IID) facilities and an existing solar power facility – to a facility northeast of the Project site. Further away, to the southeast and just slightly higher in elevation than the Project site, are Slab City and Salvation Mountain. Slab City is a former military facility that now serves as the site of an informal community for artists, travelers, and winter-time RV campers. Salvation Mountain is an outdoor art project at the western entrance to Slab City. Both attract tourists and sight-seers. However, topography, structures, and distance limit and obscure visibility of the Project site in direct views from publicly accessible portions of these areas.

Land uses to the west and south include agricultural production and dispersed rural residences, the closest of which are aligned along Wilkins Road and Weist Road. The segments of these roads closest to the southwest corner of the Project site are generally lower than the Project site by approximately 20 feet, which reduces visibility of the site. Areas further away – including the aforementioned IID facilities approximately 2 miles to the south, Niland and the State Route 111 (SR 111) corridor approximately 2 miles to the southwest, and the Wister Waterfowl Management Area approximately 3 miles to the west beyond the SR 111 corridor – are also lower in elevation and thus do not afford direct views toward the Project site.

Views in this area are expansive and are generally characterized by sparse development framed by topographical features. Low-profile, weedy plants, such as salt cedar and russian thistle, typical of this portion of the Colorado Desert, are widespread on undeveloped and unfarmed lands, and ruderal vegetation is along waterways associated with IID canals (Barrett's Biological Surveys, 2018). Individual residences, transmission lines, transportation corridors (including roads and railroads), and agricultural equipment are discernable in the foreground (within 0.25 mile) and middleground (0.25 to 3-5 miles away) views throughout the area. Geothermal plants in the vicinity of the Salton Sea are visible in most views to the west. They are identifiable by their vapor plumes. These views to the west from the Project site are backdropped by the Santa Rosa Mountains and Vallecito Mountains. Views to the east are backdropped by the Chocolate Mountains.

3.0 METHODS

A comparison of the Project site's existing conditions and the change to the landscape with implementation of the Project is based on the production of visual simulations. As a part of this process, Stantec's Visual Resources Team reviewed aerial imagery to identify where the Project would potentially be visible from visually sensitive areas and selected preliminary viewpoints for site photography. Field surveys were conducted by Stantec on February 22, 2019 to photo-document existing visual conditions and views toward the Project site. A representative subset of photographed viewpoints was selected as Key Observation Points (KOPs), which collectively serve as the basis for this assessment. This selection was done in coordination with ORNI. Assessments of existing visual conditions were made based on professional judgment that took into consideration sensitive receptors and sensitive viewing areas in the Project area. The locations of the two KOPs in relation to the Project site are presented on Figure 2.

During the field survey, the view from each KOP was photographed using a 35-millimeter, 53-megapixel, full-frame, single lens reflex camera equipped with a 50-millimeter fixed focal length lens. This configuration is the industry-accepted standard for approximating the field of vision in a static view of the human eye. The camera positioning was determined with a sub-meter, differentially corrected global positioning system (GPS). The camera was positioned at eye-level for each photograph.

The site photos were used to generate a rendering of the existing conditions and a proposed visualization of the implemented Project. The visual simulations provide clear before-and-after images of the location, scale, and visual appearance of the features affected by and associated with the Project. The simulations were developed through an objective analytical and computer-modeling process and are accurate within the constraints of the available site and alternative data (3-dimensional computer model was created using a combination of AutoCAD files and geographic information system [GIS] layers and exported to Autodesk's 3-dimensional Studio Max for production). Design data — consisting of engineering drawings, elevations, site and topographical contour plans, concept diagrams, and reference pictures — were used as a platform from which digital models were created. In cases where detailed design data were unavailable, more general descriptions about alternative facilities and their locations were used to prepare the digital models.

4.0 DESCRIPTION OF POTENTIAL VISUAL EFFECTS

This section describes views from each KOP, first under existing conditions, and then with the proposed Project simulated. The visual simulations illustrate the location, scale, and conceptual appearance of the Project, as seen from each KOP. These visual simulations allow for comparison of pre-Project and post-Project conditions as discussed qualitatively below. KOP locations are shown in Figure 2. Existing and simulated images are included in Figure 3 and Figure 4.

4.1 VIEW FROM WILKINS ROAD (KOP 1)

4.1.1 Existing View

KOP 1 is located along Wilkins Road, at its intersection with Weist Road, adjacent to the southwest corner of the Project site. The view from KOP 1 is to the north, toward the proposed Project's solar arrays and substation (Figure 3a). This viewpoint represents views from an identifiable point along the most proximate roadway, where topography allows visibility of the Project site. This view is characterized by the contrast between the vegetated and relatively flat area in the foreground and middleground of the view and Chocolate Mountains backdrop, which appears multi-colored and defines the skyline with its jagged and irregular form. The tree in the center of the view, as well as other vegetation, partially block views toward the Project site. A utility tie-in pole is visible on the far side of Wilkins Road in the left half of the view.

4.1.2 View with Project

Figure 3b shows the view from KOP 1 with the proposed Project simulated. The gen-tie structures, which would extend from the Project site approximately 2,500 feet toward the KOP, would be the most prominently visible portion of the Project from this location. As conceptually shown in the simulation, they would be visible in the center of the view and the southernmost structure would connect to the existing IID line in the left edge of the view, replacing the current interconnection to the parcel. While appearing as new and highly visible features, the transmission structures would relate to the numerous lines visible throughout the landscape, including the line to which the Project would interconnect. They would also occupy a relatively narrow portion of the view to the north from KOP 1.

The substation for the proposed Project has not yet been designed. However, the facility shown in Figure 3b is an approximation based on representative examples of substations of similar size and in similar environments. As simulated, the substation would be partially visible in views from KOP 1, alongside the solar arrays, which would appear as a comparatively dark, horizontal bar across a portion of the view's middle ground. Aside from the relatively narrow gen-tie structures, no Project component would substantially obscure or appear above the mountain skyline from this vantage point.

4.2 VIEW FROM GAS LINE ROAD (KOP 2)

4.2.1 Existing View

KOP 2 is located along Gas Line Road, 2.2 miles north of Beal Road and just under 0.5 mile east of the Project site. Multiple transmission lines are visible extending across the view, with a tubular-steel pole in the immediate foreground and the H-frame towers appearing in front of the Project site (see Figure 4a). This viewpoint represents views from workers and travelers along the north-south oriented Gas Line Road as well and from the broader, slightly uphill area to the east. The view is characterized by the visible striations, or the layered qualities of what appear in view as linear elements. Beyond the Project site is another transmission line, an orchard that appears linear in form from this vantage point, and the railroad and SR 111 corridor, which is not discernible in this view. The Salton Sea appears here as a strip of royal blue hue across the middleground of most of the view, beyond which are the Santa Rosa and Vallecito Mountains. While jagged and uneven, the distant mountain skyline's linear qualities are accentuated in this view due to the layer of snow visible along numerous peaks and upper extents of the mountain. The gradual downward slope of the Project site is apparent only by reference to further, observably lower elements in the view.

4.2.2 View with Project

Figure 4b shows the view from KOP 2 with the proposed Project simulated. The proposed Project here would appear within the front portion of the view's middleground, within the layered landscape described for the existing view. From 0.5 mile away and a slightly higher elevation, the Project would appear as a generally uniform line across the view, with solar arrays broken up by internal roads. The substation would be detectable beyond the arrays in the southern portion of the Project site, and the gen-tie structures would be visible extending to the south from the Project site. The land east of the Salton Sea would serve as backdrop to the substation, which the gen-tie poles would appear against the water body, itself.

Portions of the landscape beyond the Project, including the orchard, would be obviated by the Project. The blue-toned color of the arrays under conditions simulated here (morning light, mostly sunny skies) would relate to the Salton Sea, the southeastern shoreline of which would remain visible beyond the Project. This would distinguish the Project from the sea in this view, reinforcing their respective scales. With this definition, the size of the proposed Project relative to the broader landscape, and its visual similarity to – but physical distinction from – a body of water would be observable. The overall effect shown in Figure 4b is the relatively small degree of contrast the Project would have with its broader surroundings, as seen in expansive, slightly uphill views from the east.

5.0 PRELIMINARY CEQA ANALYSIS

This technical report will inform the Project's eventual evaluation of potential environmental effects in order to satisfy the California Environmental Quality Act (CEQA). There are four CEQA criteria for Aesthetics. Each is presented here as a question, with preliminary assessments of impact to visual resources provided.

1. **Would the Project have a substantial adverse effect on a scenic vista?**

   No Impact. Scenic vistas are typically expansive views from elevated areas. They may or may not be part of a designated scenic overlook or other area providing a static vista view of a landscape. There are no designated scenic vistas in the Project vicinity. Views to the west from elevated areas near the Project site, including views from Gas Line Road, could be considered scenic vistas given the expansiveness of the views and distance one can see under favorable conditions. As described above for the view of the Project from KOP 2, the Project would not have a substantial adverse effect on such views. Rather, it would be absorbed into the natural and built features that comprise the existing landscape. Therefore, no impacts to scenic vistas would occur.

2. **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. There no designated or eligible state scenic highways in the Project vicinity. The nearest road segment among those identified by Imperial County as "having potential as state-designated scenic highways" is the portion of SR 111 from Bombay Beach to the Imperial County / Riverside County boundary. The Project site is approximately 14 miles south of Bombay Beach. Therefore, no impacts to state scenic highways would occur.

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

   Less-than-Significant Impact. The existing visual character in views of the Project would not be substantially altered based primarily on the proximity of viewpoints to the Project site. In the view from KOP 1, new, transmission structures that would be part of the Project's interconnection, would appear large in scale, but would be comparable in size and appearance to other structures visible throughout the surrounding landscape in multiple existing transmission lines. The view from KOP 1 shows the Project, and its substation and fence, at a distance of just under 0.5 mile away. The view is partially blocked by roadside vegetation and views from other nearby publicly accessible viewpoints – including from points further north or south along Wilkins Road or east along Weist Road – would be partially to fully obscured by roadside vegetation or berms. Like the view from KOP 1, such views would likely be of short duration given the probability of the viewers being in moving vehicles. The view from KOP 2 represents elevated views from the nearest roadway to the east. As previously described, the Project would not substantially degrade the existing visual character or quality of views from this distance; rather it would appear absorbed into the broader landscape that already includes agricultural

development, electricity transmission, geothermal power plants, IID facilities and infrastructure, and, 0.5 mile to the south, an existing utility-scale solar facility. These effects would be less than significant.

4. **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 Impact. The Project would not include any source of substantial nighttime lighting. Any lighting required for safety and security within the Project site would be hooded and oriented downward. It would not be a source of substantial light in the area outside of the Project site.

   Stantec produced a Glare Hazard Analysis Report for the Project (Stantec, 2019). It concluded that viewers at Observation Points 1 and 2 (which are the same as KOP 1 and KOP 2), the representative viewpoints relied upon in this technical report (and referred to in the Glare Hazard Analysis Report as Vantage Points 6 and 15), would experience no glare effects from the Project. These effects would be less than significant.

6.0 CONCLUSIONS

The Wister PV Solar Power Plant would result in the construction of solar arrays, a substation, and associated structures on a currently undeveloped site within the Colorado Desert, just southeast and slightly uphill from the Salton Sea and the SR 111 corridor. In views from publicly accessible locations, the proposed Project would be visible and identifiable, though it would not alter existing visual character (see discussion of KOP 1). Further, such views of the proposed Project would be limited in both duration and availability. In most views, much or all of the Project would be absorbed into the broader landscape, its darker hues relating to the appearance of the Salton Sea and nearby vegetation, all of which appear as linear or low, flat polygons from locations of more than 0.5 mile away. The majority of this portion of the Imperial Valley is dedicated to agricultural and power production and transmission. The Project would appear consistent with existing patterns of croplands, orchards, geothermal facilities, utility infrastructure, solar facilities, and other mechanized or industrial-appearing development.

7.0 REFERENCES

Barrett's Biological Surveys. 2018. Wister Solar 640-Acre Project – Habitat Reconnaissance Report.

Imperial County Planning & Development Services Department. 2008. Imperial County General Plan – Circulation and Scenic Highways Element. Available online: http://www.icpds.com/?pid=571

Stantec. 2019. Wister Solar Project, Imperial County, California – Glare Hazard Analysis Report.

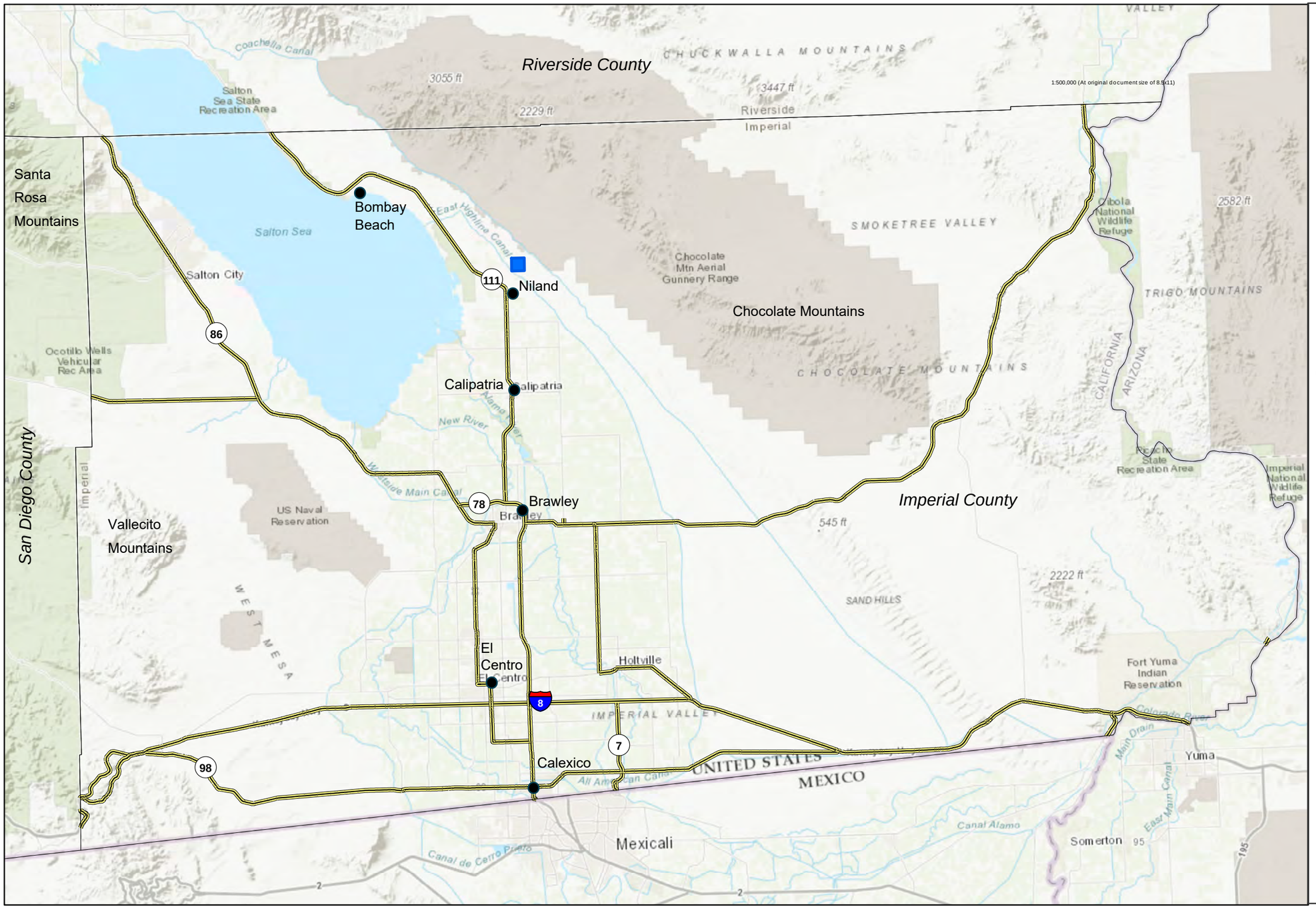

Figure No.

1

Title

Project Location

Client/Project

Orni Wister Solar Project

Project Location

Imperial County, CA

Prepared by DC on 2019-3-28

Project Location
County Boundaries
Highways

0 5 10 Miles

N

Notes
1. NAD 1983 CORS96 StatePlane California V FIPS 0405 Ft US
2. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS

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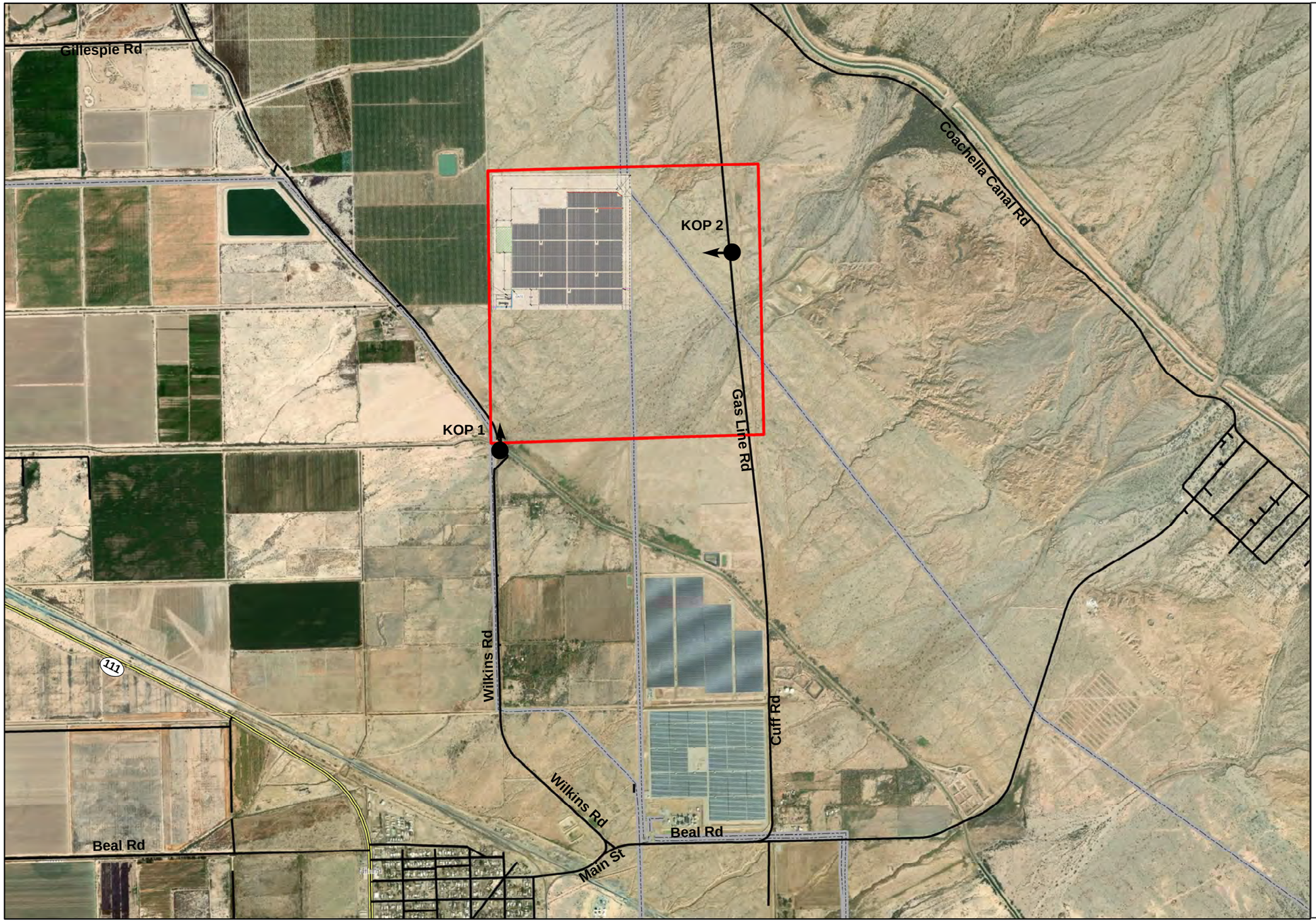

Figure No.

2

Title

Project Site and Key Observation Points

Client/Project

Orni Wister Solar Project

Project Location

Imperial County, CA

Prepared by DC on 2019-3-28

Key Observation Points
Project Boundaries
Roads
State Highways
Transmission Lines

0 0.25 0.5 Miles

N

Stantec

Figure 3a. Existing view to the northeast from KOP 1, located near the intersection of Wilkins Road and an unnamed private road.

Figure 3b. Simulated view from KOP 1: The Project would appear in the center of the view, with the gen-tie line, as conceptually simulated, extending from the Project site toward the Project interconnection at Wilkins Road.

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Figure 3
Key Observation Point 1
Orni Wister Solar Project

Figure 4a. Existing view to the west-southwest from KOP 2, located along Gas Line Road, east of the Project site.

Figure 4b. Preliminary simulated view from KOP 2. The Project would appear beyond the H-frame transmission structures visible across the view.

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Figure 4
Key Observation Point 2
Orni Wister Solar Project

Wister Solar Project
Imperial County, California

Glare Hazard Analysis Report

Prepared for:
Ormat Wister Solar

Prepared by:
- Travis Almgren, EIT
- Victor Sainz

Under supervision of:
- Ned J. Araujo, PE

Independent review by:
- Jennifer Brunty PhD, PMP

Stantec Consulting Services Inc.
735 East Carnegie Drive
San Bernardino, Ca 92408
909.335.6116

Prepared on: June 6, 2019
Revised on: February 21, 2020

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- Conceptual Site Plan

Abbreviations

deg	degrees (0 is due north, 180 is due south)
DNI	Direct Normal Irradiance
FP	Flight Path (landing path from threshold to two miles out)
ft	feet
kW	kilowatt
kWh	kilowatt hour
mi	mile
min	minutes
mrad	milliradian
MW	Megawatt
NM	Nautical Miles
OP	Observation Point (e.g. control tower, vehicle location)
PV	Photovoltaic
USMC	United States Marine Corps
VP	Vantage points (also known as Observation Point, OP)

Glossary*

Correlate Slope Error with Surface Type?	Correlates the slope error value based on the surface material type; default value is 8.43 mrads.
Eye Focal Length (m)	Typical distance between the cornea and the retina of the human eye, default is 0.017, though some sources indicate that the typical length is 0.022.
Glide Slope (deg)	Angle at which the plane approaches the runway during landing (default is 3 degrees from horizontal).
Maximum Tracking Angle (deg)	Value set when the rotation angle is limited in the clockwise and counterclockwise directions.
Resting Angle (deg)	Angle modules return to after maximum angle is reached.
Observation Point	A specific location, such as a control tower or vehicle, from which an observer might experience glare.
Ocular Transmission Coefficient	Related to the ability of the eye to transmit light, set at 0.5 by Forge Solar.
Tracking Axis Panel Offset (deg)	The vertical offset between the tracking axis and the panel.
Orientation of Tracking Axis (deg)	Direction of the tracking axis clockwise from true north.
Peak DNI (W/m^2)**	This value is set at 1,000 by ForgeSolar and is the amount of solar radiation per unit surface area by a surface perpendicular to the sun's rays in a straight line from the direction of the sun at its current position in the sky.
Pupil Diameter (m)	Typical pupil diameter for observer, default is 0.002 m.
PV Array Axis Tracking	Panel tracking mode, if any. Panel can be set to track along one (single) or two (dual) axis tracking. This parameter affects the positioning of the panels at every time step when the sun is up.
PV Array Panel Material	Surface material of panels, including use of anti-reflective coating (ARC). Options include: smooth glass without ARC, smooth glass with ARC, light-textured glass without ARC, light-textured glass with ARC, and deeply textured glass.
Rated Power (kW)	Power rating of the solar array - used to estimate the energy output per year of the array (optional).
Slope Error (mrad)	Accounts for beam scatter of sunlight on the array. Default is 8.43 mrads but the value may be adjusted based on the panel material type.

Subtended Angle of Sun (mrad)	The angle above horizontal at which the viewer observes the sun, default value is 9.3 mrad.
Threshold	The physical beginning of the runway. Aircraft are typically expected to be 50 ft above ground at this point.
Time Interval (min)	Time step intervals used by the program for analyses. Default is set to analyze for glare at every one minute interval throughout the year.
Timezone	Time zone difference from Greenwich Mean Time at the location of the analysis.
Tracking Axis Tilt (deg)	The elevation angle of the tracking axis. 0 degrees is facing straight up and 90 degrees is facing horizontally.
Vary Reflectivity	Varies panel reflectivity with sun position at each time step.
Maximum Downward Viewing Angle (deg)	The angle extending downward from the horizon indicating the maximum downward viewing angle from the cockpit. Used to determine whether glare is visible by the pilot along the flight path. Default is 30 degrees.

*Sources:

- Ho, Clifford, K., Cianian A. Sims, Julius E. Yellowhair. 2015. Solar Glare Hazard Analysis Tool (SGHAT) Users Manual v. 2H. Sandia National Laboratories
- https://www.ForgeSolar.com/

**Source: http://www.3tier.com/en/support/solar-prospecting-tools/what-direct-normal-irradiance-solar-prospecting/

APPENDIX
June 6, 2019

1.0 EXECUTIVE SUMMARY

Stantec utilized the web-based ForgeSolar Pro glare hazard analysis program to analyze the potential for glare from a proposed 20 MW photovoltaic solar power project as depicted in **Figures 1 and 2**. The program identifies the three (3) following types of glare (no color indicates no glare predicted):

GREEN - Low potential for temporary after-image.
YELLOW - Potential for temporary after-image.
RED - Potential for permanent eye damage.

Based upon the solar array parameters provided, glare from the proposed Wister Solar Project is not predicted to be visible to pilots flying planes at 5,500' above MSL. The flight path (FP) analyzed is at a heading of 270 deg, 1 to 3 Nautical Miles (NM) from the target (located 6.5 mi NE of the Wister Site). Glare is also not predicted for drivers on roads adjacent to the project. Vantage points OP2/4)& OP1/3 were analyzed for the roadways.

Note: Observation Points (OP) 2 & 4 are the same location with OP 2 at 5-ft and OP 4 at 9-ft viewing height. This also applies for OP 1 & 3; with OP 1 at 5-ft and OP 3 at 9-ft viewing height

2.0 INTRODUCTION

Stantec utilized the web-based ForgeSolar Pro glare hazard analysis program to perform the glare/glint analysis of the proposed Wister project. ForgeSolar provides a quantified assessment of (1) when and where glare will occur throughout the year for a prescribed solar installation, (2) potential effects on the human eye at locations where glare occurs, (3) a general map showing where glare is coming from within an array, and (4) the annual energy production from the photovoltaic (PV) array so that alternative designs can be compared to maximize energy production while mitigating the impacts of glare. ForgeSolar employs an interactive Google Map for site location, mapping the proposed PV array(s), and specifying observer locations or FPs. Latitude, longitude, and elevation are automatically recorded through the Google Interface, providing necessary information for sun position and vector calculations. Additional information regarding the orientation and tilt of the PV panels, reflectance, environment, and ocular factors are entered by the user.

The Project is approximately two (2) miles North East of Niland, in Imperial County, California, and adjacent to an area utilized by the USMC for training purposes. This glare study analyzes the FP provided by the USMC and two (2) observation points at ground level. If glare is found, the tool calculates the retinal irradiance and subtended angle (size/distance) of the glare source to predict potential ocular hazards ranging from temporary after-image to retinal burn. Results are presented in a plot that specifies when glare will occur throughout the year, with color codes indicating the potential ocular hazard.

The analysis included in the report were revised based on an updated conceptual site plan dated July 26, 2019.

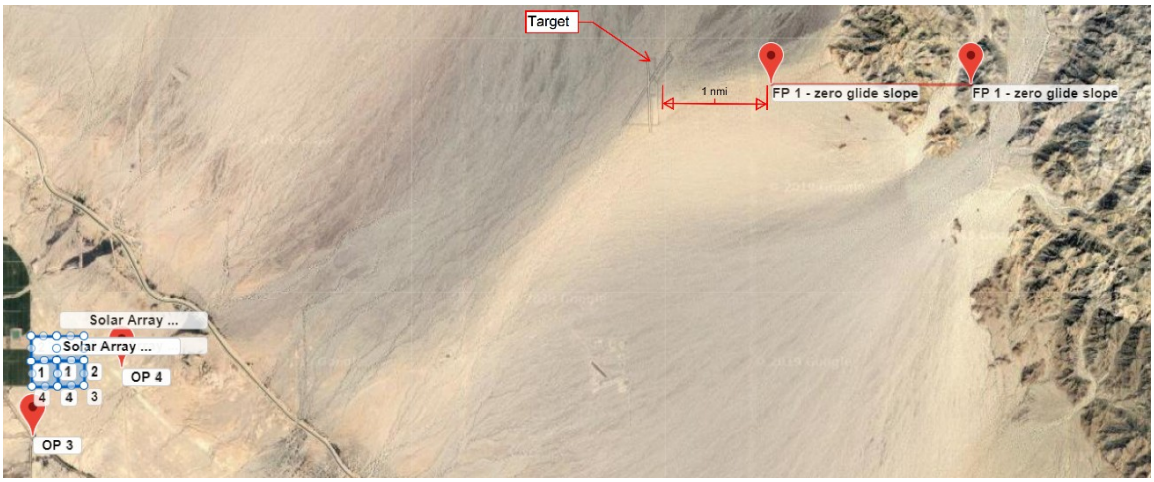


Figure 1: Wister Solar Project PV Array Layout in ForgeSolar depicting FP as requested by the USMC

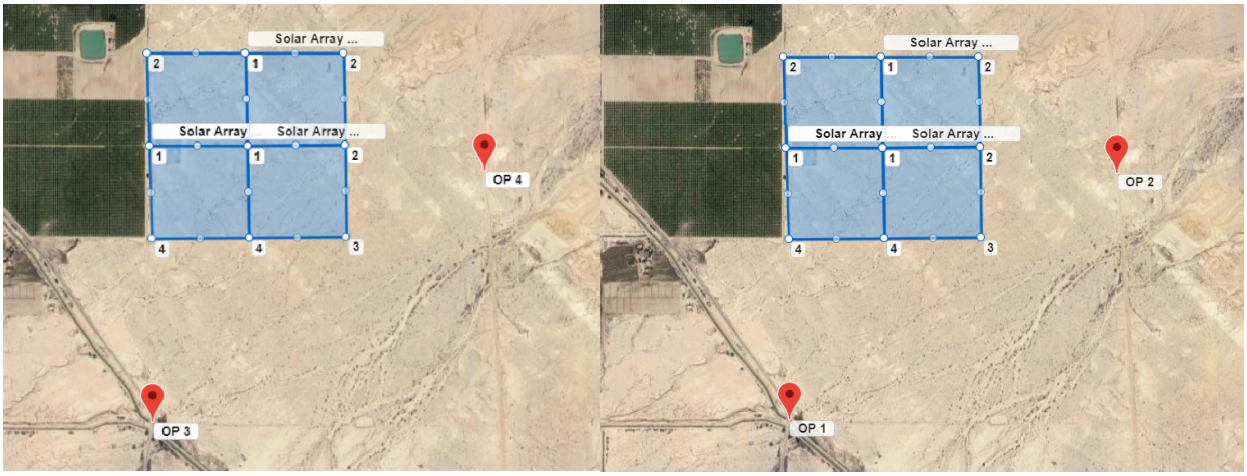


Figure 2: Wister Solar Project PV Array Layout in ForgeSolar depicting VPs at ground level

Note: The glare analysis reports included in the appendix show that four (4) arrays were used to perform the analyses. Due to the large size of the project, the accuracy of certain centroid based calculations would be reduced if the analysis was conducted as one (1) large array for the entire project. To avoid a reduction in calculation accuracy, the array was broken down into four (4) smaller arrays, which were then used to analyze the OPs and FP. The arrays were conservatively drawn slightly larger than the layouts provided.

3.0 DATA INPUT SUMMARY

The parameters used for the analyses are listed below. "Default" indicates the default parameter value set by ForgeSolar and is considered the most conservative value for the parameter. "Chosen" parameters were selected to perform the most conservative analysis with respect to glare potential.

3.1 SOLAR ARRAY

The location of the solar array and array parameters used for the analyses are based on information provided by Ormat (Client) for the Wister Solar project.

Table 1: Solar Panel Parameters Used (a detailed description of each parameter is provided in the Glossary):

Parameter	**Value Used**	**Default, Chosen, or Provided?**
Axis tracking	Single	Provided
Tracking Axis Tilt (deg)	0.0	Provided
Tracking Axis Orientation (deg)	180.0	Provided
Tracking Axis Panel Offset (deg)	0.0	Default
Maximum Tracking Angle (deg)	52.0	Provided
Resting Angle (deg)	52.0	Chosen
Rated Power (kW)	0.0 kW	Default
Vary reflectivity?	Yes	Default
Panel material	Smooth glass with ARC	Provided
Timezone offset	-8.0	Chosen

Subtended angle of sun (mrad)	9.3	Default
Peak DNI (W/m^2)	1,000	Default
Ocular transmission coefficient	0.5	Default
Pupil diameter (m)	0.002	Default
Eye focal length (m)	0.017	Default
Time interval (min)	1	Default
Correlate slope error with surface type?	Yes	Default
Slope error (mrad)	8.43	Default

It should be noted that a 'resting angle' of 52 degrees was used for the panels in the analysis. If a resting angle of 0 degrees (panels facing straight up) is used in the analysis, the program moves the panels to 0 degrees instantly once the sun drops below 52 degrees in either direction. This results in the panels facing straight up during sunrise and sunset, under which conditions the program predicts yellow glare. Panels should therefore not be 'rested' in a 0- degree position when the sun is above the horizon.

3.2 FLIGHT ANYALSIS:

Two (2) flight paths were analyzed for the Wister solar project (Figure 1). The first flight path is located approximately 1NM to the east of the center of the target. The heading of flight path one (1) is 270 deg. The ForgeSolar program automatically plots and analyzes points at the threshold and continuously for up to 2 miles in a straight direction (270 deg) from the threshold. The program also determines the altitude at each point based on the plane height at the threshold and the glide slope for landing. Flight path one (1) is at a constant altitude of 5,500' MSL. In addition, the analysis considered pilot visibility from the cockpit based on default values of 30 degrees for the vertical view restriction and 50 degrees for the azimuthal view restriction (Figure 1).

3.3 ROADWAYS ADJACENT TO THE SOLAR ARRAYS:

Two (2) observation points (also referred to as vantage points) were analyzed for vehicles travelling along adjacent roads. The Observation Points (OP) were chosen to correspond with Vantage Points (VP) used in the Project's Planning Documents. Potential glare to drivers was evaluated for both passenger vehicles and semi-trucks, where the passenger vehicles were assumed to have a maximum viewing height of 5 ft while the viewing height for drivers of semi-trucks was assumed to be a maximum of 9 ft. Locations of the chosen roadway routes are shown as red pins (OP 1 & 2) in Figure 2.

4.0 GLARE ANALYSES RESULTS

Stantec utilized the web-based ForgeSolar program for the glare analyses. ForgeSolar analyzed glare potential in one-minute increments throughout the year. The program identifies the three (3) following types of glare (no color indicates no glare predicted):

GREEN - Low potential for temporary after-image.
YELLOW - Potential for temporary after-image.
RED - Potential for permanent eye damage.

4.1 USMC FLIGHT PATH

Based on the input parameters described above, glare is not predicted for the USMC flight path from approximately one (1) to three (3) Nautical Miles east of the target with a heading of 270 deg at an altitude of 5,500' MSL as shown in **Figure 1**.

4.2 ROADWAYS ADJACENT TO THE SOLAR ARRAYS

Glare is also not predicted for drivers at either of the two (2) OP included in the analysis for drivers with viewing heights of 5 ft and 9 ft above ground (Figure 2).

5.0 CONCLUSIONS

Based upon the solar array parameters provided, glare is not predicted to occur from the proposed Wister Ormat Solar Project for planes approaching the target 1 NM to 3 NM away, heading 270 deg at an elevation of 5,500' MSL. Glare is also not predicted for drivers of vehicles at the OPs adjacent to the project at either 5-ft (cars and small trucks) or 9-ft (semi-trucks) viewing heights.

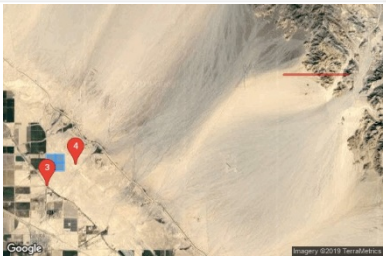
It should be noted that a 'resting angle' of 52 degrees was used for the panels in the analysis. If a resting angle of 0 degrees (panels facing straight up) is used in the analysis, the program moves the panels to 0 degrees instantly once the sun drops below 52 degrees in either direction. This results in the panels facing straight up during sunrise and sunset, under which conditions the program predicts yellow glare. Panels should therefore not be 'rested' in a 0- degree position when the sun is above the horizon.

APPENDIX

GlareGauge Glare Analysis Results

Site Configuration: Modified Site plan 25 MW 97 ac-temp-4

Project site configuration details and results.



Created **July 29, 2019 12:22 p.m.**
Updated **July 29, 2019 12:25 p.m.**
DNI **varies** and peaks at **1,000.0 W/m^2**
Analyze every **1** minute(s)
0.5 ocular transmission coefficient
0.002 m pupil diameter
0.017 m eye focal length
9.3 mrad sun subtended angle
Timezone **UTC-8**
Site Configuration ID: 29903.4971

Summary of Results No glare predicted!

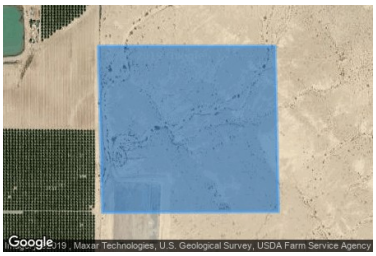
PV name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
Solar Array Ormat Wister Project North quad 1	SA tracking	SA tracking	0	0	-
Solar Array Ormat Wister Project North quad 2	SA tracking	SA tracking	0	0	-
Solar Array Ormat Wister Project North quad 3	SA tracking	SA tracking	0	0	-
Solar Array Ormat Wister Project North quad 4	SA tracking	SA tracking	0	0	-

Component Data

PV Array(s)

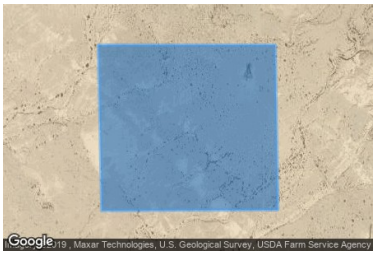
Name: Solar Array Ormat Wister Project North quad 1
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 52.0 deg
Resting angle: 52.0 deg
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	33.274494	-115.510350	-21.49	5.00	-16.49
2	33.278120	-115.510460	-5.86	5.00	-0.86
3	33.278119	-115.505847	7.98	5.00	12.98
4	33.274511	-115.505758	-3.48	5.00	1.52



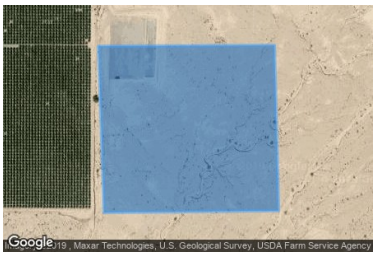
Name: Solar Array Ormat Wister Project North quad 2
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 52.0 deg
Resting angle: 52.0 deg
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	33.278120	-115.505845	7.98	5.00	12.98
2	33.278120	-115.501230	30.99	5.00	35.99
3	33.274529	-115.501159	9.85	5.00	14.85
4	33.274512	-115.505756	-3.48	5.00	1.52



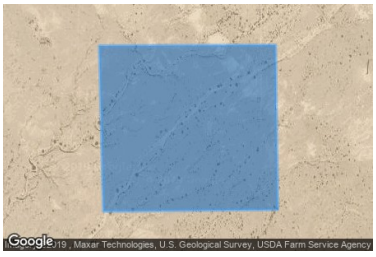
Name: Solar Array Ormat Wister Project North quad 3
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 52.0 deg
Resting angle: 52.0 deg
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	33.274494	-115.510349	-21.49	5.00	-16.49
2	33.274512	-115.505756	-3.48	5.00	1.52
3	33.270909	-115.505647	-18.05	5.00	-13.05
4	33.270869	-115.510201	-29.11	5.00	-24.11



Name: Solar Array Ormat Wister Project North quad 4
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0 deg
Tracking axis tilt: 0.0 deg
Tracking axis panel offset: 0.0 deg
Maximum tracking angle: 52.0 deg
Resting angle: 52.0 deg
Rated power: -
Panel material: Smooth glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 8.43 mrad

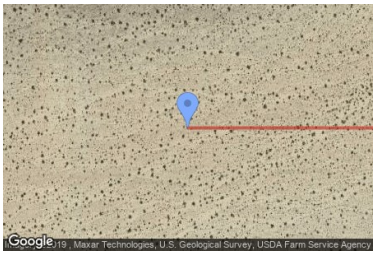
Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	33.274513	-115.505755	-3.48	5.00	1.52
2	33.274531	-115.501159	9.85	5.00	14.85
3	33.270949	-115.501102	-0.27	5.00	4.73
4	33.270910	-115.505646	-18.05	5.00	-13.05



2-Mile Flight Path Receptor(s)

Name: FP 1 - zero glide slope at 5500 MSL
Description:
Threshold height : 4876 ft
Direction: 270.0 deg
Glide slope: 0.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	33.314551	-115.381791	624.26	4876.01	5500.27
2-mile point	33.314551	-115.347152	1564.57	3935.70	5500.27



Discrete Observation Receptors

Number	Latitude	Longitude	Ground elevation	Height above ground	Total Elevation
	deg	deg	ft	ft	ft
OP 1	33.263714	-115.510158	-47.01	9.00	-38.01
OP 2	33.273511	-115.494633	40.49	9.00	49.49
OP 3	33.263710	-115.510160	-47.01	5.00	-42.01
OP 4	33.273510	-115.494630	40.49	5.00	45.49

PV Array Results

Solar Array Ormat Wister Project North quad 1

Component	Green glare (min)	Yellow glare (min)
FP: FP 1 - zero glide slope at 5500 MSL	0	0
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0

Solar Array Ormat Wister Project North quad 2

Component	Green glare (min)	Yellow glare (min)
FP: FP 1 - zero glide slope at 5500 MSL	0	0
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0

Solar Array Ormat Wister Project North quad 3

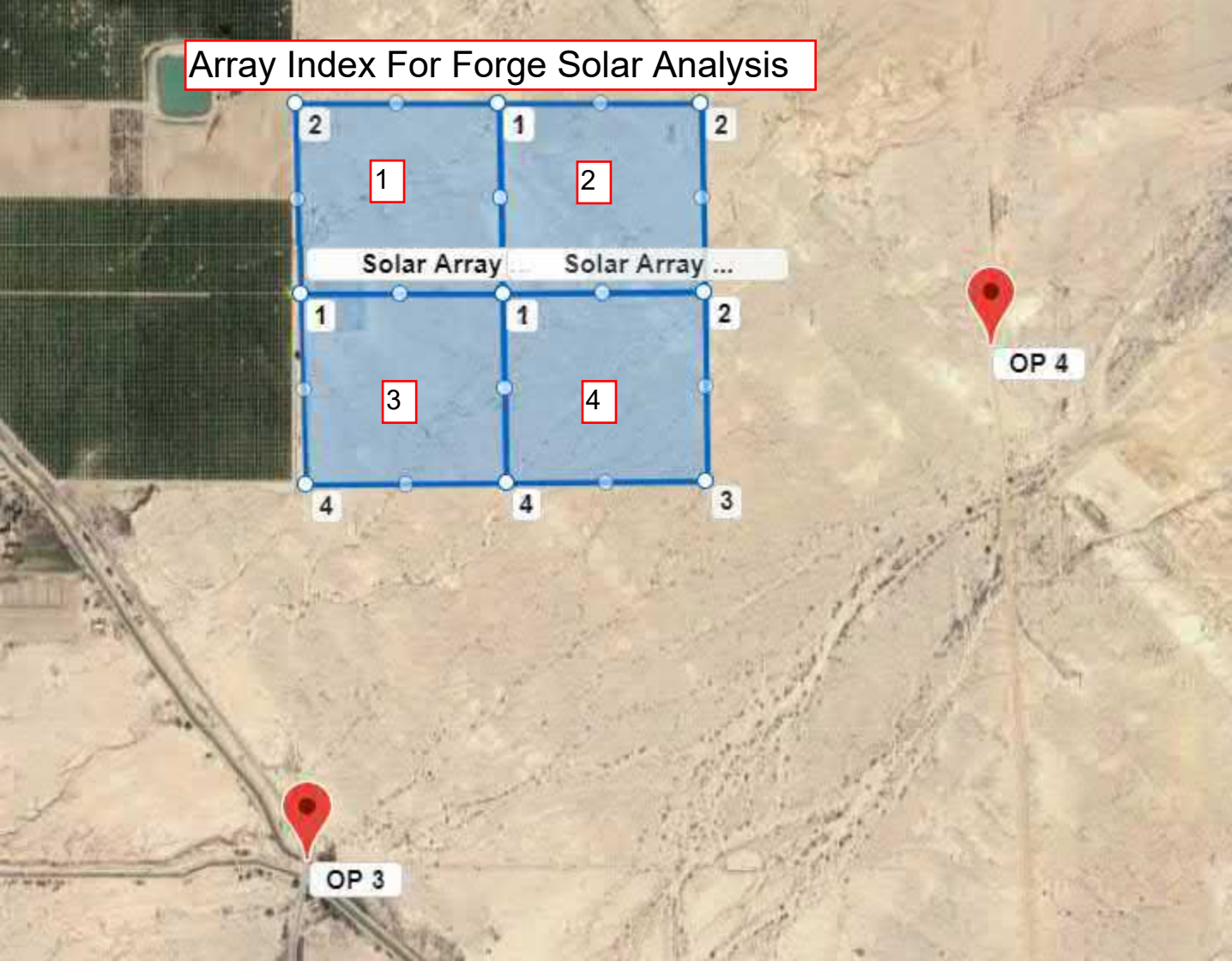
Component	Green glare (min)	Yellow glare (min)
FP: FP 1 - zero glide slope at 5500 MSL	0	0
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0

Solar Array Ormat Wister Project North quad 4

Component	Green glare (min)	Yellow glare (min)
FP: FP 1 - zero glide slope at 5500 MSL	0	0
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0

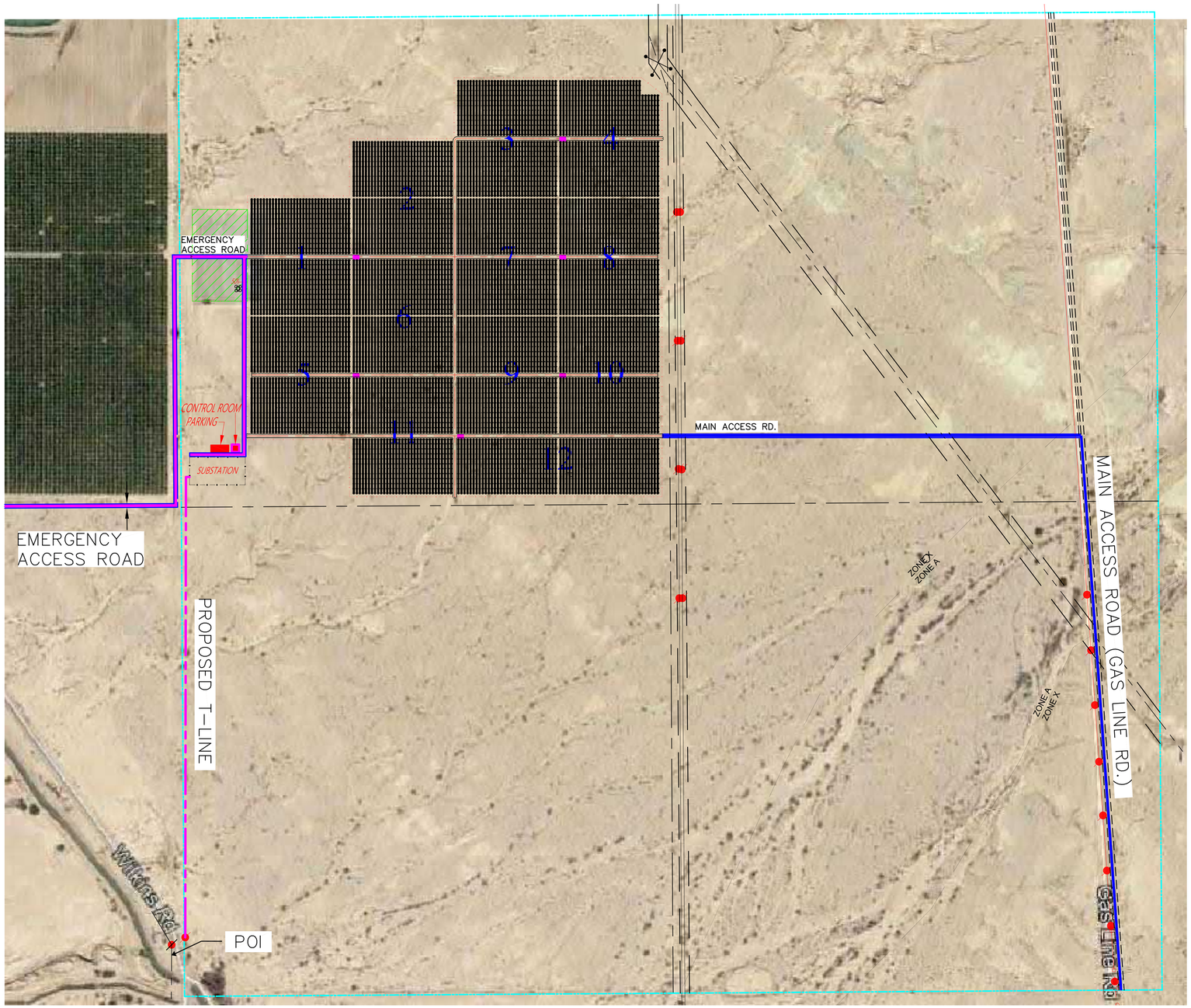
Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for assumptions and limitations not listed here.


Array Index For Forge Solar Analysis
2
1
2
1
2
Solar Array
Solar Array ...
1
1
2
3
4
4
4
3
OP 4
OP 3

TOPOGRAPHICAL & SITE PLAN - 25 MW-DC Solar Project

COUNTY OF IMPERIAL, STATE OF CALIFORNIA



NORTH

SCALE: 1"=300'

300 0 300 600

GRAPHIC SCALE

LEGEND:

- PROPERTY LINE
- PROPOSED CHAIN LINK FENCE
- PROPOSED INVERTER LOCATION
- MAIN ACCESS ROAD
- EMERGENCY ACCESS ROAD
- LAYDOWN/TEMP OFFICE LOCATION

SOLAR FIELD
97.11± ACRES

25 MW-DC

SINGLE AXLE TRACKING

370 Watts Solar Panel

ORMAT

WISTER SOLAR PROJECT 25MW

TOPOGRAPHICAL PLAN

OWNER: ORMAT

Ed.Barajas

DATE: 06/26/2019

SHEET: 1 OF: 1

Air Quality Technical Study for the Wister Solar Facility Project Imperial County, California

Wister Solar Project

Report Date:

June 24, 2020

Prepared for:

ORNI 33, LLC
6140 Plumas Street
Reno, NV 89519

Prepared by:

Stantec Consulting Services
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

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Prepared by: _____
(signature)
For Nasrin Behmanesh, Ph.D., Air Quality and Climate Change Specialist

Updated by:_____
(signature)
Blake Barroso, Air Quality Specialist

Quality Review by: _____
(signature)
Jonya Lofgren, Environmental Designer

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Abbreviations

AB	Assembly Bill
AC	Alternating current
ARB	Air Resources Board, California Air Resources Board
CAAQS	California Ambient Air Quality Standards
CAA	Clean Air Act
CEQA	California Environmental Quality Act
CalEEMod	California Emissions Estimator Model
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CPUC	California Public Utility Commission
DC	Direct current
EO	Executive order
EPA	United States Environmental Protection Agency
GHG	Greenhouse gas
GWP	Global warming potential
ICAPCD	Imperial County Air Pollution Control District
IID	Imperial Irrigation District
kV	Kilovolt
LCFS	Low carbon fuel standard
NAAQS	National Ambient Air Quality Standards
NO_2, NOx	Nitrogen dioxide, oxides of nitrogen
O_3	Ozone
Pb	Lead
PM_{10}, and $PM_{2.5}$	Respirable particulate matter, and fine particulate matter
ppb, ppm	parts per billion, parts per million
PV	Photovoltaic
RPS	Renewable Portfolio Standard
ROG	Reactive organic gases
SB	Senate bill
SIP	State Implementation Plan
SO_2, and Sox	Sulfur dioxide and sulfur oxides
SSAB	Salton Sea Air Basin
TAC	Toxic air contaminants
VOC	Volatile organic compounds

1.0 INTRODUCTION AND PROJECT DESCRIPTION

This Air Quality Technical Study provides assessment of potential air quality and climate change impacts associated with construction and operation of the Wister Solar Power Project in Imperial County, California. The purpose of the Project is to utilize the abundance local solar energy to create a renewable energy and transmission system to support and encourage the development of renewable energy resources, consistent with the County's General Plan objectives. The Project applicant and the County have identified several purposes and objectives for the Project as follows:

- Construct, operate and maintain a reliable, safe, environmentally sound and economically efficient solar-powered electricity generating facility at a location with abundance of solar resource and potential.
- Help California meet its Renewable Portfolio Standard (RPS) requirements, which require that by 2030, California's electric utilities obtain 50 percent of the electricity they supply from renewable sources. This will also help achieve the greenhouse gas reduction goals of Assembly Bill 32 (AB 32-California Global Warming Solutions Act of 2006).
- Interconnect with electrical transmission infrastructure either planned or being constructed by other nearby projects, thus increase the opportunities for the sharing or using the existing utility transmission corridor(s).
- Operate a renewable energy facility that does not produce noise, minimizes greenhouse gas emissions and water use.
- Utilize a location that is in close proximity to an existing switching station and power lines. Thus, can supply additional on-peak power to the electrical grid in California.

1.1 SUMMARY PROJECT DESCRIPTION

ORNI 33, LLC (ORNI) is proposing to build, operate and maintain a solar power plant on private lands owned by ORNI in unincorporated Imperial County (refer to Figure 1). The Wister Solar Energy Facility (the Project) will use photovoltaic (PV) technology and would include the construction and operation of a 20 Megawatt (MW) solar farm on approximately 100 acres within the 640-acre Section (T10S, R14E, Section 27) owned by ORNI 33, LLC. The Project is located within Assessor's Parcel No. 003-240-001 and is currently zoned Open Space/Preservation (S-2). The proposed Project site is located about three miles north of the unincorporated town of Niland.

ORNI is developing the Wister Solar Energy Facility in order to reasonably maximize the Project's generating capacity, taking into account land and environmental constraints. ORNI intends to begin construction on the Project upon acquisition of all County entitlements and environmental clearance. Assuming one year to complete all permits, construction would begin the first quarter of 2020.

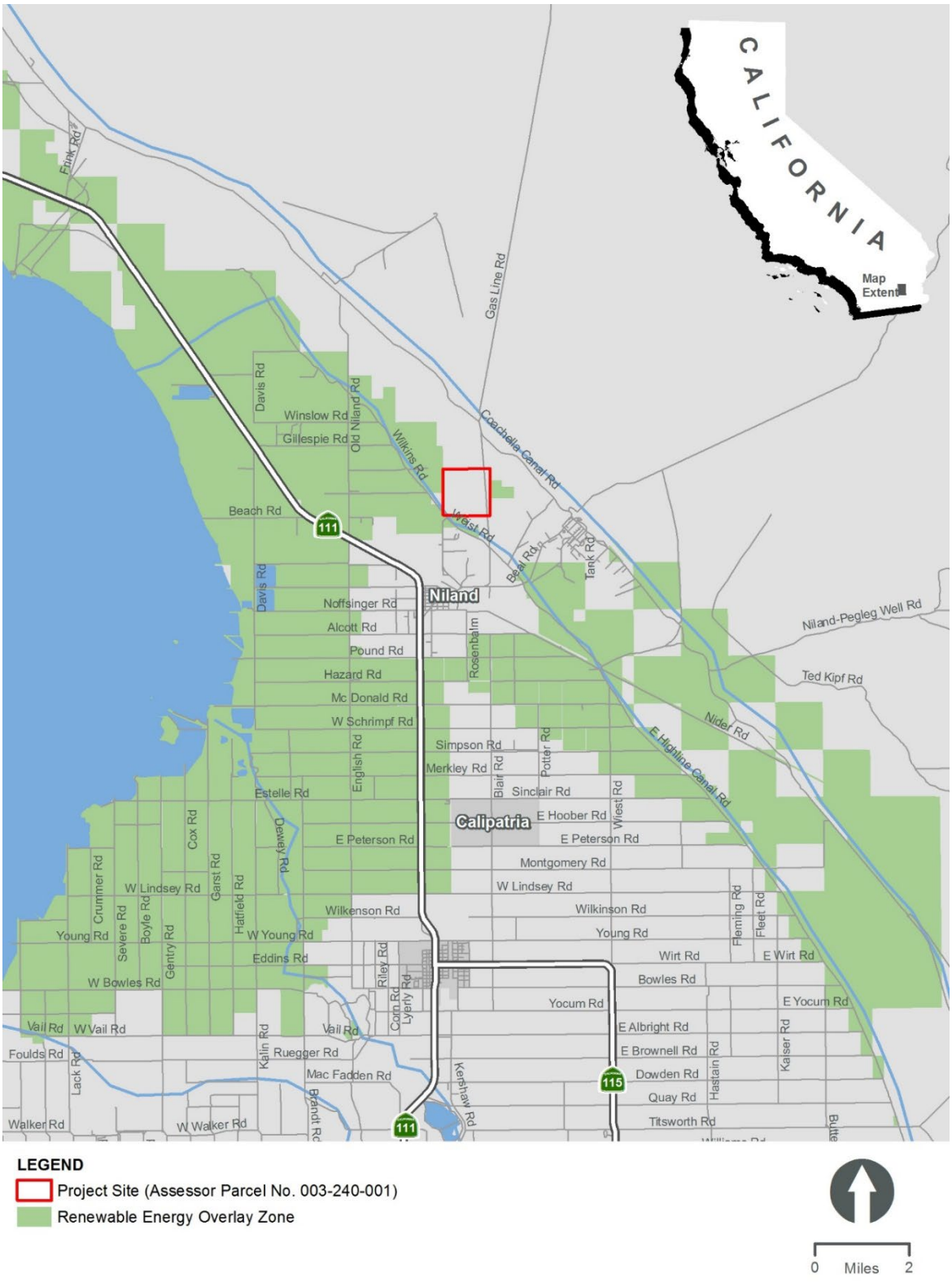
A Power Purchase Agreement (PPA) for 20 MW to San Diego Gas & Electric (SDG&E) has been secured by ORNI and encompasses the Project. Approximately 100 acres of total ground disturbance is anticipated for the Project including the proposed substation and utility building.

The Project site consists of one parcel located within unincorporated Imperial County that is currently vacant. Power generated at the Project would be low voltage direct current (DC) power that would be collected and routed to a series of inverters and their associated pad-mounted transformers. Each 2.1 MW array would have (1) one 2.1 MW inverter and (1) one 2.1 MW transformer, which are collectively known as a Power Conversion Station (PCS). The inverters would convert the DC power generated by the panels to alternating current (AC) power and the pad mounted transformers would step up the voltage to a nominal 12.47 kV voltage level. The proposed substation would connect to an existing Imperial Irrigation District 92 kV “K” Line. The power would then be sold to the wholesale market or retail electric providers in furtherance of the goals of the California Renewable Energy Portfolio Standards and other similar renewable programs in the Pacific Southwest power market. The proposed Project is intended to operate year-round. Using an array of thin film photo-voltaic (PV) modules to convert solar energy directly to electrical power for export to the electrical grid, the proposed Project would generate electricity during daylight hours when electricity demand is at its peak.

1.2 PROJECT LOCATION

The undeveloped Project site is in Imperial County, located west of Gas Line Road, approximately three miles north of unincorporated town of Niland. The geographic center of the proposed Project site roughly corresponds with 33.28° latitude, -115.50° longitude. Figure 1 illustrates the area of the Project solar farm. The Project would employ the use of PV power systems to convert solar energy into electricity. The solar generating facility would consist of 3.2-foot by 6.5-foot PV modules (or panels) on single-axis horizontal trackers in blocks that each hold 2,520 PV panels, with 90 modules in each of the 28 rows. The panels would be oriented from east to west for maximum exposure and the foundation would be designed based on existing soil conditions. The PV modules are made of a polycrystalline silicon semiconductor material encapsulated in glass. Installation of the PV arrays would include installation of mounting posts, module rail assemblies, PV modules, inverters (direct current, DC to alternate current, AC), transformers and buried electrical conductors. Concrete would be required for the footings, foundations and pads for the transformers and substation work. Tracker foundations would be comprised of either driven or vibrated steel posts/pipes, and/or concrete in some places. The Project site’s proposed main access would be located near the intersection of Wilkins road and an unnamed private road, just north of the East Highline Canal. This main access road would be located on the west side of the Gen-Tie Line, trending north to the substation from Wilkins Road. Primary emergency access would be located east of the Project site, accessible via Gas Line Road just north of the access road to the Niland Solid Waste Site. Secondary emergency access would be from the west, just south of an existing agricultural orchard, and would enter the Project site at the same location as the main access road. All access roads leading to the Project would be all-weather and composed of gravel.

Figure 1 Project Regional Location



The proposed Project would be required to conform to all California Public Utilities Commission (CPUC) safety standards. The Project site would be fenced with a 6-foot high chain link security fence topped with barbed wire and two gates would be located in each fenced area. The proposed Project would be operated on an “unstaffed” basis and, therefore, would not include construction of a permanent office.

1.3 PROJECT CONSTRUCTION SCHEDULE AND PHASING

Based on the Project’s CUP, it is anticipated that construction activities start in the first quarter of 2020 and would last approximately 6 to 9 months with the Project operation starting in 2021. Further details about the construction phasing are provided in the Methodology section of this report.

1.4 PROJECT OPERATION

Upon completion of the construction phase, the proposed Project would be operated on an unstaffed basis and would be monitored remotely, with periodic on-site personnel visitations for security, maintenance, and system monitoring. Therefore, full-time site personnel would not be required for regular Project operations, and employees would be on-site four times per year to wash the panels. As the Project’s PV arrays would produce electricity passively, maintenance requirements would be minimal. Any required planned service activities would generally consist of equipment inspection and maintenance and would be scheduled to avoid peak load periods. The unplanned maintenance would be typically responded to as needed, depending on the event.

Estimated annual water consumption for operation and maintenance of the proposed Project, including periodic PV module washing, would be approximately 0.81-acre feet annually (af/y), which would be trucked to the Project site as needed.

1.5 DECOMMISSIONING

Solar equipment has a lifespan of 20 to 25 years. At the end of the Project operation term, the applicant may determine that the Project should be decommissioned and deconstructed. Because the PV arrays supporting equipment sits on the surface of the land, when they are removed after the Project’s lifetime, the land will be largely unaltered from its natural state and available for agricultural use. Orni has prepared a Decommissioning Plan to ensure the decommissioning of the Project after its productive lifetime is conducted in accordance with County requirements. A Power Purchase Agreement (PPA) for 20 MW to San Diego Gas & Electric (SDG&E) has been secured by ORNI and encompasses the Project. Upon completion of the PPA term, the applicant (or assignee) would either have the option to enter into a subsequent PPA with another entity or decommission and remove the proposed Project and its components from the Project site. The Project site could then be converted to original land uses, in accordance with all applicable land use regulations and zoning conditions imposed on the Project site at that time.

2.0 AFFECTED ENVIRONMENT

2.1 EXISTING SETTING

The Project is located in Imperial County within the Salton Sea Air Basin (SSAB). The SSAB consists of all of Imperial County and a portion of Riverside County. Both the Imperial County Air Pollution Control District (ICAPCD) and South Coast Air Quality Management District (SCAQMD) have jurisdiction within the SSAB. The ICAPCD has full jurisdiction within all Imperial County and SCAQMD only has jurisdiction within Riverside County. Ambient air quality is affected by the climate, topography, and the type and amount of pollutants emitted.

2.1.1 Climate and Topography

The SSAB is generally an arid desert region, with a significant portion located below sea level. The climatic condition in the SSAB is strongly influenced by the large-scale sinking and warming of air within the semi-permanent subtropical high-pressure center over the Pacific Ocean. When the fringes of mid-latitude storms pass through the Imperial Valley in winter, the coastal mountains create a strong “rain shadow” effect that makes Imperial Valley the second driest location in the U.S. The flat terrain near the Salton Sea, intense heat from the sun during the day, and strong radiational cooling at night create deep convective thermals during the daytime and equally strong surface-based temperature inversions at night. The temperature inversions and light nighttime winds trap any local air pollution emissions near the ground. The area is subject to frequent hazy conditions at sunrise, followed by rapid daytime dissipation as winds pick up and the temperature rises.

The lack of clouds and atmospheric moisture creates strong diurnal and seasonal temperature variations ranging from an average summer maximum of 108 degrees (°) Fahrenheit down to a winter morning minimum of 38° Fahrenheit. The most pleasant weather occurs from about mid-October to early May when daily highs are in the 70s and 80s with very infrequent cloudiness or rainfall. Imperial County experiences significant rainfall an average of only four times per year. The rainy period of the year lasts for 3.4 months, from December 4 to March 16, with a sliding 31-day rainfall of at least 0.5 inches. The rainless period of the year lasts for over 8 months, from March to early December.

Winds in the area are driven by a complex pattern of local, regional, and global forces, but primarily reflect the temperature difference between the cool ocean to the west and the heated interior of the entire desert southwest. For much of the year, winds flow predominantly from the west to the east. In summer, intense solar heating in the Imperial Valley creates a more localized wind pattern, as air comes up from the southeast via the Gulf of California. During periods of strong solar heating and intense convection, turbulent motion creates good mixing and low levels of air pollution. However, even strong turbulent mixing is insufficient to overcome the emissions that emanate from the Mexicali, Mexico area because of the limited air pollution controls on those emission sources. Imperial County is predominately agricultural land. This is a factor in the cumulative air quality of the SSAB. The agricultural production generates dust and small particulate matter through the use of agricultural equipment on unpaved roads, land preparation, and

harvest practices. Imperial County experiences unhealthful air quality from photochemical smog and from dust because of extensive surface disturbance and the very arid climate.

The SSAB also experiences surface inversions almost every day of the year. These inversions are caused by the presence of the region's typical subtropical high-pressure cell, which causes the air mass aloft to sink. Air masses are large bodies of air with similar temperature and moisture content. An air mass aloft refers to the higher-altitude air mass which inductively suggests that there is a separate (and thus different in temperature and moisture content) air mass at ground level. As this air mass sinks, the temperature thereof rises through compressional heating, thus exceeding the temperature of the air below. This stable atmospheric condition, known as a subsidence inversion, becomes a nearly impenetrable barrier to the vertical mixing of pollutants. These inversions often last for long periods of time, which allows for air stagnation and the buildup of pollutants. During the winter, the area experiences radiation inversions in which the air near the ground surface cools by radiation, whereas the air higher in the atmosphere remains warmer. A shallow inversion layer is created between the two layers and precludes the vertical dispersion of air, thus trapping pollutants. The highest ozone levels are often associated with subsidence inversions.

2.1.2 Regulatory Setting

Federal, state, and local agencies have set ambient air quality standards for certain air pollutants through statutory requirements and have established regulations and various plans and policies to maintain and improve air quality, as described below.

2.2 CRITERIA POLLUTANTS

2.2.1 Federal

The federal Clean Air Act (CAA), which was passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The CAA delegates primary responsibility for clean air to the U.S. Environmental Protection Agency (EPA). The EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies. Under the act, the EPA has established the National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants that are pervasive in urban environments and for which state and national health-based ambient air quality standards have been established. Ozone (O3), carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), lead (Pb), and particulate matter (PM10 – respirable particles less than 10 microns in diameter, and PM2.5 – fine particles less than 2.5 microns in diameter) are the six criteria air pollutants. Ozone is a secondary pollutant, Nitrogen oxides (NOX) and volatile organic compounds (VOCs) are of particular interest as they are precursors to ozone formation. The NAAQS are divided into primary and secondary standards; the primary standards are set to protect human health within an adequate margin of safety, and the secondary standards are set to protect environmental values, such as plant and animal life. The standards for all criteria pollutants are presented in Table 1.

The CAA requires EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The act also mandates that the state submit and implement a State Implementation Plan (SIP)

for areas not meeting the NAAQS. These plans must include pollution control measures that demonstrate how the standards will be met.

2.2.2 State

The State of California began to set its ambient air quality standards (i.e., CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. The California Clean Air Act (CCAA) was adopted by the California Air Resources Board (ARB) in 1988. The CCAA requires all air district of the state to achieve and maintain the CAAQS by the earliest practical date. Table 1 shows the CAAQS currently in effect for each of the criteria pollutants, as well as the other pollutants recognized by the state. As shown in Table 1, the CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

Table 1: State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	
			Primary	Secondary
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m³)	--	Same as Primary
	8 Hour	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)	
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m³	150 µg/m³	Same as Primary
	Annual Mean	20 µg/m³	--	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	--	35 µg/m³	Same as Primary
	Annual Mean	12 µg/m³	12.0 µg/m³	15 µg/m³
Carbon Monoxide (CO)	1 Hour	20 ppm (23 µg/m³)	35 ppm (40 mg/m³)	--
	8 Hour	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	--
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	--
	Annual Mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	Same as Primary
Sulfur Dioxide (SO_2)	1 Hour	0.25 ppm (655 µg/m³)	75 ppb (196 µg/m³)	--
	3 Hour	--	--	0.5 ppm (1300 µg/m³)
	24 Hour	0.04 ppm (105 µg/m³)	0.14 ppm	--
	Annual Mean	--	0.030 ppm	--
Lead (Pb)	30 Day Average	1.5 µg/m³	--	--
	Calendar Quarter	--	1.5 µg/m³	Same as Primary
	Rolling 3-Month Average	--	0.15 µg/m³	Same as Primary
Visibility reducing particles	8 Hour	10-mile visibility standard, extinction of 0.23 per kilometer	No National Standards	
Sulfates	24 Hour	25 µg/m³		
Hydrogen sulfide (H_2S)	1 Hour	0.03 ppm (42 µg/m³)		
Vinyl chloride	24 Hour	0.01 ppm (265 µg/m³)		

Notes:
ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter; "--" = no standard.
Source: CARB 2016.

The ARB and local air districts are responsible for achieving CAAQS, which are to be achieved through district-level air quality management plans (AQMPs) that would be incorporated into the SIP. In California, the EPA has delegated authority to prepare SIPs to ARB, which in turn, has delegated that authority to individual air districts. Each district plan is required to either (1) achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

Other ARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air districts) and setting emissions standards for new motor vehicles and for other emission sources, such as consumer products and certain off-road equipment.

The CCAA substantially adds to the authority and responsibilities of air districts. CCAA designates 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 (TCMs). The CCAA also emphasizes the control of indirect and area-wide sources of air pollutant emissions and gives local air pollution control districts explicit authority to regulate indirect sources of air pollution.

2.2.3 Attainment Status

Depending on whether or not the applicable ambient air quality standards (AAQS) are met or exceeded, the air basin is classified as being in "attainment" or "nonattainment." The USEPA and CARB determine the air quality attainment status of designated areas by comparing ambient air quality measurements from state or local ambient air monitoring stations with the NAAQS and CAAQS. These designations are determined on a pollutant-by-pollutant basis. Consistent with federal requirements, an unclassifiable/ unclassified designation is treated as an attainment designation. Table 2 presents the federal and state attainment status for the project area. As shown in the Table 2, the Imperial County is currently designated as nonattainment for O3 and PM10 under state standards. Under federal standards, the County is in marginal nonattainment for O3, serious nonattainment for PM10, and moderate nonattainment for PM2.5. The area is currently in attainment or unclassified status for all other ambient air quality standards.

Table 2: Federal and State Attainment Status

Pollutant	Federal Designation	State Designation
Ozone (O_3)[1]	Marginal Nonattainment	Nonattainment
Particulate Matter (PM_{10})	Serious Nonattainment	Nonattainment
Particulate Matter ($PM_{2.5}$)	Moderate Nonattainment – partial[2]	Attainment
Carbon Monoxide (CO)	Unclassified/ Attainment	Attainment
Nitrogen Dioxide (NO_2)	Unclassified/ Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead (Pb)	Unclassified/ Attainment	Attainment
Hydrogen Sulfide (H_2S)	-	Unclassified
Sulfates	-	Attainment
Visibility Reducing Particles	-	Unclassified

Notes:
(-) = Not Identified/ No Status.
[1] The SSAB is marginal nonattainment for the 2015 ozone standard and moderate attainment for the 2008 standard.
[2] Only the Imperial Valley portion of the County is nonattainment for PM2.5 NAAQS. USEPA Greenbook 2018, and Source: CARB 2017

***Toxic Air Contaminants Regulation*.** California regulates toxic air containments (TACs) primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588 – Connelly). In the early 1980s, the ARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Toxic Air Contaminant Identification and Control Act of 1983 (AB 1807) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

In August 1998, ARB identified diesel particulate matter (DPM) emissions from diesel-fueled engines as a TAC. In September 2000, ARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel fueled engines and vehicles (ARB 2000). The goal of the plan is to reduce diesel PM10 (inhalable particulate matter) emissions and the associated health risk by 75% in 2010 and by 85% by 2020. The plan identified 14 measures that target new and existing on-road vehicles (e.g., heavy-duty trucks and buses, etc.), off-road equipment (e.g., graders, tractors, forklifts, sweepers, and boats), portable equipment (e.g., pumps, etc.), and stationary engines (e.g., stand-by power generators, etc.). During the control measure phase, specific statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles will be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions. The proposed Project would be required to comply with applicable diesel control measures.

2.2.4 Local

The ICAPCD is the agency responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the district. The air district was formed by the Air Pollution Control Act of 1947.

The ICAPCD adopted its CEQA Air Quality Handbook: Guidelines for the Implementation of the California Environmental Quality Act of 1970 in 2007 and amended the handbook in December 2017 (ICAPCD 2017). The ICAPCD CEQA Air Quality Handbook provides guidance on how to determine the significance of impacts, including air pollutant emissions, related to the development of residential, commercial, and industrial projects. Where impacts are determined to be significant, the ICAPCD CEQA Air Quality Handbook provides guidance to mitigate adverse impacts to air quality from development projects. The ICAPCD is the agency principally responsible for comprehensive air pollution control in the region.

The ICAPCD has developed rules and regulations that regulate stationary sources, area sources, and certain mobile source emissions, and is responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

Air Quality Plans. The ICAPCD has developed plans and strategies to achieve attainment for air quality ambient standards. The latest plans include the following:

- 2009 Imperial County Plan for PM_{10}
- 2012 Annual $PM_{2.5}$ SIP
- 2013 Plan for 2006 24-hour $PM_{2.5}$ for moderate nonattainment area
- 2017 Plan for 2008 8-hour Ozone standard
- 2018 Redesignation Request and Maintenance Plan for PM_{10}

The following ICAPCD rules are applicable to the Project:

Rule 106 – Abatement. If the ICAPCD determines that any person is in violation of the Rules and Regulations for limiting the discharge of air contaminants into the atmosphere, the ICAPCD may issue and order for abatement.

Rule 107 – Land Use. The Air Pollution Control Officer has the responsibility to protect public health and property from the damaging effects of air pollution and will review and advise the appropriate land use authorities on all new construction or changes in land use which could become a source of air pollution problems.

Rule 310 – Operational Development Fee: Provides the ICAPCD with a sound method for mitigating emissions produced from operations of new commercial and residential development projects by requiring project proponents to pay fees based on the project's emissions, type and size. The operational fees would assist in attaining the State and federal ambient air quality standards for PM10 and Ozone.

Rule 401 – Opacity of Emissions: Sets limits for release or discharge of emissions into the atmosphere, other than uncombined water vapor, that are dark or darker in shade as designated as No.1 on the Ringelmann Chart or obscure an observer's view to a degree equal to or greater than smoke does as compared to No.1 on the Ringelmann Chart, for a period or aggregated period of more than three minutes in any hour.

Rule 403 – General Limitations on the Discharge of Air Contaminants. Rule 403 sets forth limitations on emissions of pollutants, including particulate matter, from individual sources.

Rule 407 – Nuisance. Rule 407 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Stationary Sources

Rule 201 – Permits Required. The construction, installation, modification, replacement, and operation of any equipment which may emit or control Air Contaminants require ICAPCD permits.

Rule 207 – New and Modified Stationary Source Review. Establishes preconstruction review requirements for new and modified stationary sources to ensure the operations of equipment does not interfere with attainment or maintenance of ambient air quality standards.

Rule 208 – Permit to Operate. The ICAPCD would inspect and evaluate the facility to ensure the facility has been constructed or installed and will operate to comply with the provisions of the Authority to Construct permit and comply with all applicable laws, rules, standards, and guidelines.

Regulation VIII – Fugitive Dust Rules. Regulation VIII sets forth rules regarding the control of fugitive dust, including fugitive dust from construction activities. The regulation requires implementation of fugitive dust control measures to reduce emissions from earthmoving, unpaved roads, handling of bulk materials, and control of track-out/carry-out dust from active construction sites.

2.3 CLIMATE CHANGE AND GREENHOUSE GASES

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gases (GHGs), particularly those generated from the production and use of fossil fuels. While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulfur hexafluoride (SF6), tetrafluoromethane, hexafluoroethane, HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane), and HFC-152a (difluoroethane).

GHGs refer to atmospheric gases that absorb solar radiation and subsequently emit radiation in the thermal infrared region of the energy spectrum, trapping heat in the Earth's atmosphere. These gases include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and water vapor, among others. A growing body of research attributes long-term changes in temperature, precipitation, and other elements of Earth's climate to large increases in GHG emissions since the mid-nineteenth century, particularly from human activity related to fossil fuel combustion. Anthropogenic GHG emissions of particular interest include CO2, CH4, N2O, and fluorinated gases.

GHGs differ in how much heat each can trap in the atmosphere (global warming potential, or GWP). The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO2, the most abundant GHG. The definition of GWP for a particular GHG is expressed relative to CO2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of carbon dioxide equivalent (CO2e). For example, the 2007 International Panel on Climate Change Fourth Assessment Report calculates the GWP of CH4 as 25 and the GWP of N2O as 298, over a 100-year time horizon (IPCC 2007). Generally, estimates of all GHGs are summed to obtain total emissions for a project or given time period, usually expressed in metric tons (MTCO2e), or million metric tons (MMTCO2e) (SMAQMD 2020).

In the U.S., the main source of GHG emissions is electrical generation followed by transportation (USEPA 2016). In California, however, transportation sources are the largest contributors of GHG emissions (CARB 2018). Emissions associated with electricity generation are the second largest contributor. The dominant GHG emitted is CO2, mostly from fossil fuel combustion.

Two terms are typically used when discussing the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” "Greenhouse gas mitigation" is a term for reducing GHG emissions to reduce or "mitigate" the impacts of climate change. “Adaptation" refers to planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).

2.3.1 Federal

At the federal level there is currently no overarching law related to climate change or the reduction of GHGs. The EPA is developing regulations under the CAA to be adopted in the near future, pursuant to the EPA’s authority under the CAA. Foremost amongst recent developments have been the settlement agreements between the EPA, several states, and nongovernmental organizations (NGOs) to address GHG emissions from electric generating units and refineries; the U.S. Supreme Court’s decision in Massachusetts v. EPA; and EPA’s “Endangerment Finding,” “Cause or Contribute Finding,” and “Mandatory Reporting Rule.” On Sept. 20, 2013, the EPA issued a proposal to limit carbon pollution from new power plants. The EPA is proposing to set separate standards for natural gas-fired turbines and coal-fired units. Although periodically debated in Congress, no federal legislation concerning GHG limitations is has yet been adopted. In Coalition for Responsible Regulation, Inc., et al. v. EPA, the United States Court of Appeals upheld the EPA’s authority to regulate GHG emissions under CAA. Furthermore, Under the authority of the CAA, the EPA is beginning to regulate GHG emissions starting with large stationary sources. In 2010, the EPA set GHG thresholds to define when permits under the New Source Review Prevention of Significant Deterioration (PSD) standard and Title V Operating Permit programs are required for new and existing industrial facilities. In 2012, EPA proposed a carbon pollution standard for new power plants.

2.3.2 State

California has been innovative and proactive in addressing GHG emissions through passage of legislation including Senate and Assembly bills and executive orders, some of which are listed below.

Executive Order (EO) S-3-05. In 2005, the governor issued EO S-3-05, establishing statewide GHG emissions reduction targets. The goal of this EO is to reduce California’s GHG emissions to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. The EO further directed the secretary of the California EPA to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming. The first such Climate Action Team Assessment Report was produced in March 2006 and has been updated every 2 years thereafter. This goal was further reinforced with the passage of Assembly Bill 32 (AB 32) in 2006 and Senate Bill 32 (SB 32) in 2016.

Assembly Bill 32 (AB 32 California Global Warming Solution Act). In 2006, California passed the California Global Warming Solutions Act of 2006 (*AB 32*; California Health and Safety Code Division 25.5, Sections 38500, et seq.), which codified the 2020 GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve “real, quantifiable, cost- effective reductions of greenhouse gases.” The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code Section 38551(b)). The law requires ARB to

adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions. The Scoping Plan was prepared and approved on December 11, 2008 and was later updated in May 2014. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals (to the level of 427 million MT of CO_2e) defined in the original Scoping Plan. It also evaluates how to align the State's longer-term GHG reduction strategies with other State policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use. 2005, the governor issued EO S-3-05, establishing statewide GHG emissions reduction.

Under the "business as usual" (BAU) scenario established in 2008, statewide emissions were increasing at a rate of approximately 1 percent per year, as noted below. It was estimated that the 2020 estimated BAU of 596 MMT of CO_2e would have required a 28 percent reduction to reach the 1990 level of 427 MMT of CO_2e.

Senate Bill 97 (SB 97). Chapter 185, 2007, Greenhouse Gas Emissions: This bill requires the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Executive Order (EO) S-01-07 (January 18, 2007). This order, signed by Governor Schwarzenegger, sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. ARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

Senate Bill 375 (SB 375). Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

Executive Order B-30-15. On April 20, 2015, Governor Brown signed EO B-30-15 to establish a GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments such as the 28-nation European Union which adopted the same target in October 2014. California is on track to meet or exceed its legislated target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, summarized above). California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2°C, the warming threshold at which there will likely be major climate disruptions such as severe droughts and rising of sea levels. The targets stated in EO B-30-15 have not been adopted by the state legislature.

Senate Bill 32 (SB 32) September 2016. Chapter 249 of the bill codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030. SB 32 provides another intermediate target between the 2020 and 2050 targets set in EO S-3-05.

Renewable Energy Portfolio. The Renewable Portfolio Standard (RPS) promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002 with the initial requirement that 20% of electricity retail sales must be served by renewable resources by 2017 (referred to as the "initial RPS"). The goals have been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020.

The program was accelerated in 2015 with SB 350 (de León, 2015) which mandated a 50% RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65% of RPS procurement to be derived from long-term contracts of 10 or more years. In 2018, SB 100 (de León, 2018) was signed into law, which again increases the RPS to 60% by 2030 and requires all the state's electricity to come from carbon-free resources by 2045.

In April 2011, the Governor signed SB 2 (1X) codifying California's 33 percent RPS goal; Section 399.19 requires the California Public Utilities Commission, in consultation with the California Energy Commission, to report to the Legislature on the progress and status of RPS procurement and other benchmarks. The purpose of the RPS upon full implementation was to provide 33 percent of the state's electricity needs through renewable energy sources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.

The program was further accelerated in 2015 with SB 350 (de León, 2015) which mandated a 50% RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65% of RPS procurement to be derived from long-term contracts of 10 or more years. Most recently, on September 10, 2018, Governor Brown signed the SB 100 which aims at eliminating fossil fuel from electricity generation in California. The Bill sets a target of 100 percent carbon-free electricity by 2045.

The RPS is included in ARB's Scoping Plan list of GHG reduction measures to reduce energy sector emissions. It is designed to accelerate the transformation of the electricity sector through such means as investment in the energy transmission infrastructure and systems to allow integration of large quantities of intermittent wind and solar generation. Increased use of renewables would decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector. In 2008, as part of the Scoping Plan original estimates, ARB estimated that full achievement of the RPS would decrease statewide GHG emissions by 21.3 million MT CO_2e. In 2010, ARB revised this number upwards to 24.0 million MT CO_2e.

2.3.3 Air Pollutants

2.3.3.1 Criteria Pollutants

The federal and state governments have established ambient air quality standards for six criteria pollutants: carbon monoxide (CO), ozone (O3), particulate matter (PM), nitrogen dioxide (NO2), sulfur dioxide (SO2), and lead (Pb). Ozone and particulate matter are generally considered as regional pollutants because they or their precursors affect air quality across a region. Pollutants such as CO, NO2, SO2, and Pb are local

pollutants in that they tend to accumulate in the air locally. In addition to being a regional pollutant, particulate matter is also considered a local pollutant. In the area of the proposed project site, ozone and particulate matters are of particular concern because of their attainment status at the regional level.

Ozone (O_3) is reactive gas consisting of three atoms of oxygen. Ozone is not directly emitted into the air but is formed by a photochemical reaction in the atmosphere. It is a secondary pollutant that is formed when NOx and volatile organic compounds (VOC) react in the presence of sunlight. Ozone at the earth's surface causes adverse health effects on respiratory and cardiovascular system and is also a component of smog. In the stratosphere, ozone exists naturally and shields Earth from harmful incoming ultraviolet radiation.

Nitrogen Dioxide (NO_2) is one of a group of highly reactive gasses known as "oxides of nitrogen," or "nitrogen oxides" (NOx). These gases form when fuel is burned at high temperatures and come principally from on-road and off-road motor vehicle exhaust and stationary sources such as electric utilities and industrial boilers. A suffocating, brownish gas, nitrogen dioxide is a strong oxidizing agent that reacts in air to form corrosive nitric acid, as well as toxic organic nitrates. It also plays a major role in the atmospheric reactions that produce ground-level ozone (or smog).

Carbon Monoxide (CO) is an odorless, colorless gas that is highly toxic. CO is a public health concern because it combines readily with hemoglobin in human blood, reducing the amount of oxygen transported in the bloodstream. Effects on humans range from slight headaches to nausea to death. CO is formed by the incomplete combustion of fossil fuels and is emitted directly into the air. In urban areas, motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains emit CO, however, the main source of CO is on-road motor vehicles. Because of the local nature of CO problems, ARB and EPA designate urban areas as CO nonattainment areas instead of the entire basin as with ozone and PM_{10}. Motor vehicles are by far the largest source of CO emissions. Emissions from motor vehicles have been declining since 1985, despite increases in vehicle miles traveled, with the introduction of new automotive emission controls and fleet turnover.

Particulate Matter (PM_{10} and $PM_{2.5}$) Particulate matter emissions are generated by a wide variety of sources, including agricultural activities, industrial emissions, fugitive dust from earth disturbance activities, dust suspended by vehicle traffic and construction equipment, and secondary PM formed by reactions in the atmosphere. Secondary PM forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Major sources of $PM_{2.5}$ and ultrafine particle are combustion sources such as motor vehicles, power generation, industrial processes, and wood burning, while PM_{10} sources also include sources from roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust.

Scientific studies have linked both long- and short-term particle pollution exposure to a variety of health problems. PM_{10} and $PM_{2.5}$ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system and damage the respiratory tract. PM_{10} and $PM_{2.5}$ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body’s ability to fight infections. Suspended particulates also damage and discolor surfaces on which they settle and contribute to haze and reduce regional visibility.

Sulfur Dioxide (SO_2) is a colorless, irritating gas with a "rotten egg" smell formed primarily by the combustion of sulfur-containing fossil fuels. However, like airborne NOX, suspended SOX particles contribute to the poor visibility. These SOX particles can also combine with other pollutants to form PM2.5. The prevalence of low-sulfur fuel use has minimized problems from this pollutant.

Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. The health effects of lead poisoning include loss of appetite, weakness, and miscarriage. Lead can also cause lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract. The major sources of lead emissions have historically been motor vehicles and industrial sources. Due to the phase out of leaded gasoline, metal processing is the major source of lead emissions to the air today. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

2.3.3.2 Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. Although there are no ambient standards established for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or other acute (short-term) or chronic (long-term) health problems. For TACs that are known or suspected carcinogens, the ARB has consistently found that there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risks they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health effects, a similar factor, called a Hazard Index, is used to evaluate risk. TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). Examples of TAC sources include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources. The TACs that are relevant to the implementation include diesel particulate matter (DPM) and airborne asbestos.

Diesel Particulate Matter (DPM) was identified as a TAC by the ARB in August 1998 (CARB,1998). DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute approximately 40% of the statewide total, with an additional 57 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources, contributing about 3 percent of emissions, include shipyards, warehouses, heavy equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-fueled internal combustion engines. Stationary sources that report DPM emissions also include heavy construction, manufacturers of asphalt paving materials and blocks, and diesel-fueled electrical generation facilities a metal found naturally in the environment as well as in manufactured products.

Exposure to DPM can have immediate health effects. DPM can have a range of health effects including irritation of eyes, throat, and lungs, causing headaches, lightheadedness, and nausea. Exposure to DPM also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. Children, the elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. In California, DPM has been identified as a carcinogen.

Airborne Asbestos. Asbestos occurs naturally in ultramafic rock (which includes serpentine). When this material is disturbed in connection with construction, grading, quarrying, or surface mining operations, asbestos-containing dust can be generated. Asbestos is a known carcinogen. Exposure to asbestos can result in adverse health effects such as lung cancer, mesothelioma (cancer of the linings of the lungs and abdomen), and asbestosis (scarring of lung tissues that results in constricted breathing).

2.3.3.3 Greenhouse Gases

Carbon Dioxide (CO_2)

CO_2 is a colorless, odorless gas consisting of molecules made up of two oxygen atoms and one carbon atom. CO_2 is produced when an organic carbon compound (such as wood) or fossilized organic matter, (such as coal, oil, or natural gas) is burned in the presence of oxygen. CO_2 is removed from the atmosphere by CO_2 "sinks", such as seawater, ocean-dwelling plankton, forests, and grasslands. Under certain circumstances, however, these sinks can also be a source of CO_2. Whereas the biosphere and ocean achieve a natural balance of CO_2 production and absorption, humankind has altered the natural carbon cycle since the industrial revolution. Beginning in the mid-1700s, the burning of coal, oil, natural gas, and wood has increased globally. Prior to the industrial revolution, concentrations of CO_2 were stable between 275 and 285 (ppm). The National Oceanic and Atmospheric Administration (NOAA's) Earth System Research Laboratory indicates that global concentrations of CO_2 were 405.1 ppm in March 2016, an increase that matched the record jump observed in 2015 (NOAA 2017). The 6-year, 6-ppm surge in CO_2 between 2015 and 2017 is unprecedented in the observatory's 59-year record. And, it was a record fifth consecutive year that CO_2 rose by 2 ppm or greater. These concentrations of CO_2 far exceed the natural range over the last 650,000 years (180 to 300 ppm) as determined from ice cores.

Methane (CH_4)

CH4 is a colorless, odorless, combustible, non-toxic gas consisting of molecules made up of four hydrogen atoms and one carbon atom. CH4 is the main constituent of natural gas, a fossil fuel. CH4 is released when organic matter decomposes in low oxygen environments. Natural sources include decomposition processes generated by wetlands, swamps and marshes, termites, and oceans. Human sources include the mining of fossil fuels and transportation of natural gas, digestive processes in ruminant animals such as cattle, rice paddies, and buried waste in landfills. Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH4. Other anthropogenic sources include fossil fuel combustion and biomass burning.

Nitrous Oxide (N_2O)

N_2O is a colorless, non-flammable gas with a sweetish odor, commonly known as "laughing gas", and sometimes used as an anesthetic. N_2O is naturally produced in the oceans and in rainforests. Manmade sources of N_2O include agricultural fertilizers, nylon and nitric acid production, cars with catalytic converters, and the burning of organic matter. Concentrations of N_2O also began to rise at the beginning of the industrial revolution.

Chlorofluorocarbons (CFCs)

CFCs are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. In the 1970s, scientists discovered that CFCs destroy stratospheric ozone, leading to thinning of the Earth's protective ozone layer. Since then there has been an ongoing global effort to halt their production, which has been extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons (HFCs)

Hydrofluorocarbons (HFCs) are synthesized chemicals that are used as a substitute for CFCs. Out of all the GHGs, HFCs are one of three groups with the highest GWP. HFCs are synthesized for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons (PFCs)

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays can destroy the compounds only in the upper atmosphere. Consequently, PFCs have very long lifetimes – between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride (SF_6)

Sulfur hexafluoride (SF_6) is a manmade and extremely potent GHG. SF_6 is very persistent, with an atmospheric lifetime of more than a thousand years. Thus, a relatively small amount of SF_6 can have a significant long-term impact on global climate. SF_6 is used primarily by the electric power industry. Because of its inertness and dielectric properties, it is the industry's preferred gas for electrical insulation, current interruption, and arc quenching (to prevent fires) in the transmission and distribution of electricity. SF_6 is used extensively in high-voltage circuit breakers and switchgear, and in the magnesium metal casting industry.

2.3.3.4 Sensitive Receptors

Some population groups, such as children, the elderly, and acutely and chronically ill persons are considered more sensitive to air pollution than others. Sensitive receptor locations typically include residential areas, hospitals, elder-care facilities, rehabilitation centers, daycare centers, and parks. The Project site is in a rural area surrounded by agricultural fields. Sensitive receptors located within one mile of the Project site consist of a few scattered rural homes, there are no sensitive receptors within 1,500 feet of the Project site boundary.

2.3.3.5 Existing Local Ambient Air Quality

Existing levels of ambient air concentrations and historical trends and projections in the project area are best documented by measurements made by the ICAPCD and CARB. The closest most representative air monitoring station to the project site is the project site is the Niland Monitoring Station on English Road. However, the Niland Monitoring Station only monitors ozone and particulate matter that is 10 microns or less in diameter (PM_{10}). Thus, monitoring data from the Brawley Station for $PM_{2.5}$ is also included below. This was determined to be appropriate since the project area is only nonattainment for ozone, PM_{10} and $PM_{2.5}$. The most recent published data for the monitoring stations is presented in Table 3, which encompasses the years of 2013 through 2017.

Table 3: Existing Local Ambient Air Quality from 2013 – 2017

Pollutant	Averaging Time	Standard	2013	2014	2015	2016	2017
Ozone (O_3)	1-Hour	Maximum Concentration (ppm)	0.102	0.081	0.091	0.079	0.072
		Days > CAAQS (0.09 ppm)	1	0	0	0	0
	8-Hour	Maximum Concentration (ppm)[a]	0.083	0.075	0.074	0.066	0.061
		Days > NAAQS (0.07 ppm)	**5**	**2**	**5**	0	0
Particulate Matter (PM_{10})	24-Hour	Maximum Concentration (□g/m^3) - National	144	173	250	226	345
		Maximum Concentration (□g/m^3) - State	333	276	260	231	*
		Days > NAAQS (150 □g/m^3)	0	**6**	**6**	**6**	**4**
		Days > CAAQS (50 □g/m^3)	145	124	104	87	*
	Annual	State Annual Average (20 □g/m^3)	51.5	50.6	46.11	40.7	n/a
Particulate Matter [c] ($PM_{2.5}$)	24-Hour	Maximum Concentration (□g/m^3)	23.1	24.3	29.5	57.9	46.1
		Days > NAAQS (35 □g/m^3)	0	0	0	**6**	**3**
		National Std. 98th Percentile [b]	17	20	12	32	27
	Annual	National Annual (12.0 □g/m^3)	7.2	7.3	6.6	11.3	9.4

AAM – Annual Arithmetic Mean; CAAQS – California ambient air quality standards; g/m^3 – micrograms per cubic meter; NAAQS – National ambient air quality standards; ppm – parts per million; n/a – sufficient data not available to determine the value

*The estimated number of measured concentrations above national standards are shown in **bold**.*

Note: Ambient data for CO, NO_2, SO_2 and airborne lead are not included in this table since the entire Imperial County is currently in compliance with state and federal standards for these pollutants.

[a] The 8-hour ozone standard is attained when the fourth highest concentration in a year, averaged over 3 years, is less than or equal to the new national standard of 0.07 ppm. (Values listed in table represent midnight-to-midnight 24-hour averaged and exclude exceptional events.)

[b] Attainment condition for $PM_{2.5}$ is that the 3-year average of the 98th percentile of 24-hour concentrations at each monitor within an area must not exceed the standard.

[c] O_3 and PM_{10} data are from Niland Monitoring Station located at 7711 English Road, approximately 13 miles from the project site. $PM_{2.5}$ concentrations are not measured at Niland station; the listed data are from Brawley Monitoring Station located at 220 Main Street, about 4 miles southeast of Project site.

Source: CARB,2019, EPA 2019

3.0 IMPACTS AND MITIGATION MEASURES

3.1 THRESHOLDS OF SIGNIFICANCE

Based upon criteria presented in Appendix G of the California Environmental Quality Act (CEQA), a project would have a significant air quality impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under applicable federal or state ambient air quality standards;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The ICAPCD has also established significance thresholds based on the state CEQA significance criteria. adopted guidelines for implementation of CEQA in its *CEQA Air Quality Handbook* (ICAPCD, 2007, as updated December 12, 2017). The ICAPCD recommended thresholds of significance are discussed below. The thresholds are adopted for construction and operation emissions of criteria pollutants for residential, commercial and industrial projects.

3.1.1 Construction

For construction-related emissions, ICAPCD indicates the thresholds presented in Table 4. The ICAPCD guidelines in its CEQA Handbook states that the approach to evaluating construction emissions should be qualitative rather than quantitative. In any case, regardless of the size of the project, the standard mitigation measures for construction equipment and fugitive PM_{10} must be implemented at all construction sites. The implementation of discretionary mitigation measures, including those listed in Section 7.1 of the ICAPCD's Handbook, apply to those construction sites which are 5 acres or more for non-residential developments or 10 acres or more in size for residential developments that generate emissions above the levels in Table 4. The list of mitigation measures that would be implemented for the proposed Project (derived from Section 7.1 of the ICAPCD CEQA Guidelines) is provided in Section 5.1)

Table 4: ICAPCD Construction Thresholds of Significance

Pollutant	Threshold (lbs/day)
ROG	75
NOx	100
CO	550
PM_{10}	150

3.1.2 Operations

ICAPCD has determined in its CEQA Air Quality Handbook (ICAPCD 2017) that, because the operational phase of a proposed project has the potential of creating lasting or long-term impacts on air quality, it is

important that a proposed development evaluate the potential impacts carefully. Therefore, air quality analyses should compare all operational emissions of a project, including motor vehicle, area source, and stationary or point sources to the thresholds in Table 5. Table 5 provides general guidelines for determining the significance of impacts and the recommended type of environmental analysis required based on the total emissions that are expected from the operational phase of a project.

Table 5: ICAPCD Operations Thresholds of Significance

Pollutant	Tier I	Tier II
NOx and ROG	Less than 137 lbs/day	137 lbs/day and greater
PM_{10} and Sox	Less than 150 lbs/day	150 lbs/day and greater
CO and $PM_{2.5}$	Less than 550 lbs/day	550 lbs/day and greater
Level of Significance	Less than Significance	Significant Impact
Level of Analysis	Initial Study	Comprehensive Air Quality Analysis
Environmental Document	Negative Declaration	Mitigated ND or EIR

Source: CEQA Air Quality Handbook, ICAPCD, 2017

As shown, projects with emissions of criteria pollutants below Tier I may potentially have an adverse impact on local air quality but will be required to develop an initial study to determine the level of significance of potential impact. Tier II projects with a potential to emit criteria pollutants above the thresholds of Tier I are considered to have a significant impact on regional and local air quality. Tier II projects are required to implement all standard mitigation measures, as well as identify and implement all feasible discretionary mitigation measures.

Based upon criteria presented in Appendix G of the California Environmental Quality Act (CEQA), a project would have a significant air quality impact if it would:

- Generate GHG emissions, either directly or indirectly, that may have an adverse effect on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The ICAPCD has not adopted threshold of significance for projects' GHG emissions. However, projects in the Imperial County use the SCAQMD's Interim Thresholds as follows:

- Industrial projects: 10,000 metric ton (MT) per year emissions of carbon monoxide equivalent (CO_2e)
- Residential, commercial and mixed-use projects: 3,000 MT CO2e per year

The proposed Project is considered a commercial development; as such, this analysis, compares the direct and indirect emissions from the project with the 3,000 MT threshold level.

3.1.3 Displaced Grid Electricity Emissions

Indirect sources of emissions can be of different forms. The proposed Project generates electricity from solar energy, a renewable source and as such, is an indirect source of reduction in fossil fuel-powered electricity generation. The proposed Project would provide a renewable energy resource that would displace generation from higher GHG emitting sources. There would be a small amount of indirect GHG emissions from the proposed Project water use.

4.0 METHODOLOGY

The proposed Project would result in both short-term and long-term emissions of air pollutants associated with construction and operations of the proposed Project. Construction emissions would include exhaust from the operation of conventional construction equipment, on-road emissions from employee vehicle trips and haul truck trips, fugitive dust as a result of grading and vehicle travel on paved and unpaved surfaces. Operational emissions would include four vehicle trips per day of full-time employees to commute to and from the project site, to control the site operation and equipment and perform limited maintenance of equipment.

Construction and operational emissions were estimated using the latest version of California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operation of a variety of land use projects. The model utilizes widely accepted federal and state models for emission estimates and default data from sources such as USEPA AP-42 emission factors, California Air Resources Board (CARB) vehicle emission models, and studies from California agencies such as the California Energy Commission (CEC). The model quantifies direct emissions from construction and operations, as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

The model was developed in collaboration with the air districts in California. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions.

4.1 CONSTRUCTION EMISSIONS

Construction emissions associated with the proposed project, including emissions associated with the operation of off-road equipment, haul-truck trips, on-road worker vehicle trips, and vehicle travel on paved and unpaved surfaces and fugitive dust from material handling activities were calculated using CalEEMod version 2016.3.2. Emissions modeling included emissions generated during site preparation, grading, trenching, construction of roads, transmission lines, and installation of electrical infrastructure, substations and solar array modules.

Modeling input data was based on anticipated construction schedule and phasing. Construction equipment and usage required for each phase were obtained using information provided by the applicant, or derived from similar projects, and default parameters contained in the model for the Project area (Imperial County). The exact construction schedule has not yet been identified however the construction duration for the 20 MW facility is assumed to be between 6 to 9 months. Table 6 includes the construction phasing and anticipated equipment used in each phase for the 20 MW facility.

Table 6: Construction Phasing and Anticipated Equipment

Phase (Duration)	Equipment Used			Daily Vehicle Trips	
	Type	Number	Hours/ day	Workers (LD Mix)	Trucks (HHDT)
1. Site Preparation	Forklifts	1	8		
(30 working days)	Generator Sets	2	3		
	Off-Highway Trucks	2	4		
	Rollers	1	8	30	25
	Rubber Tired Dozers	2	5		
	Trenchers	2	7		
	Tractors/Loaders/Backhoes	2	6		
2. Facility Installation	Cranes	1	4		
(110 working days)	Forklifts	2	8		
	Generator Sets	2	4		
	Off-Highway Trucks	2	4	50	30
	Other Construction Equipment	2	6		
	Tractors/Loaders/Backhoes	1	7		
	Welders	1	7		
3. Gen-Tie, Site Restoration	Cranes	1	4		
(20 working days)	Forklifts	2	6		
	Generator Sets	1	3	20	20
	Off-Highway Trucks	1	4		
	Tractors/Loaders/Backhoes	3	6		
	Welders	1	7		

Notes:
For the parameters that are not provided in the table (e.g., equipment horsepower and load factor, on-road vehicles trip lengths), CalEEMod defaults were used. Assumed 98% paved roads for workers and truck trips.

4.2 OPERATIONAL EMISSIONS

The Project requires minimal operations and maintenance activities and would not require presence of full-time employees. However, for estimation of operational emissions, it is conservatively assumed that for day-to-day inspection and minor maintenance, some employees would commute to the site. The annual operations are assumed to be as follows:

- For site inspection and minor repairs, up to 4 one-way worker trips per day would be generated.
- Routine maintenance activities would include panel washing, which is expected to occur four times annually over a total of 20 days. Panel washing activities are estimated to require additional daily trips of 4 workers and 6 haul trucks for transport of water during each event. Panel washing was assumed to require the use of two pressure washers operating 8 hours/day,

and 5 days/week. The default model generated trip lengths were used for workers commute and haul trucks.

Operational emissions associated with the proposed project were quantified using CalEEMod version 2016.3.2.

4.3 DISPLACED GRID ENERGY EMISSIONS

In addition to the direct and indirect emissions created from project construction and operation, the project's renewable electricity generation would create an indirect emissions reduction of GHGs. Operation of the proposed project would likely reduce or "offset" electricity-related emissions on the state-wide utility grid, which includes energy generated by traditional sources, such as natural gas and coal-fired plants. These emissions are often referred to as "displaced" or "avoided" emissions.

Displaced emissions from electricity production were modeled based on an estimated electricity generation rate of 112,910 MWh/year (for 25 MW facility), provided by the project proponent. Emission factors were derived from the U.S. EPA's *Emissions Generation Resource Integration Database* (eGRID; 2016) as well as CalEEMod for Imperial County. The lower estimated displaced emissions were used in this report. Emissions Calculations and assumptions and model output files are included in Appendix A of this report.

5.0 IMPACT ANALYSIS

Impact AQ-1	Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. A project is conforming with applicable adopted plans if it complies with the applicable ICAPCD rules and regulations and emission control strategies in the applicable air quality attainment plans. The project would comply with the applicable rules and regulations, including the use of standard mitigation measures for construction equipment and fugitive PM_{10}.

Consistency with air quality plans is typically conducted based on a comparison of project-generated growth in employment, population, and vehicle miles traveled (VMT) within the region, which is used for development of the emissions inventories contained in the air quality plans. While the Project would contribute to energy supply, which is one factor of population growth, the proposed Project would not significantly increase employment or growth within the region. Moreover, development of the proposed Project would increase the amount of renewable energy and help California meet its Renewable Portfolio Standard (RPS).

Furthermore, the thresholds of significance, adopted by the air district (ICAPCD), determine compliance with the goals of attainment plans in the region. As such, emissions below the ICAPCD regional mass daily emissions thresholds presented in Tables 4 and 5 would not conflict with or obstruct implementation of the applicable air quality plans. As Tables 7 and 8 show, the emissions from proposed Project construction and operation are below the thresholds of significance; therefore, the proposed Project does not conflict with implementation of the ICAPCD applicable air quality plans. No mitigation is required.

Impact AQ-2	Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact. The Project implementation would generate emissions of criteria air pollutants during construction and operation. The estimated emissions from construction and operations of the Project are summarized in Tables 7 and 8. The detailed assumptions and calculations, as well as CalEEMod outputs are provided in Appendix A of this report.

Table 7: Unmitigated Construction Emissions Summary

Construction Phase	Pollutant Emission (pounds per day)					
	ROG	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2
1. Site Preparation	4.1	39.6	25.7	27.8	7.9	0.06
2. Facility Installation	3.4	30.4	25.0	27.6	4.0	0.06
3. Gen-Tie, Site Restoration	2.0	17.9	14.8	14.2	2.2	0.03
Peak Daily Emission	*4.1*	*39.6*	*25.7*	*27.8*	*7.9*	*0.06*
ICAPCD Significance Thresholds	*75*	*100*	*550*	*150*	--	--
Threshold Exceeded?	*No*	*No*	*No*	*No*	--	--

NA = Not applicable, no threshold

ICAPCD significance thresholds are based on maximum daily emissions.

Emission were quantified using CalEEMod, version 2016.3.2 using "general light industry" land use category and modifying default values, where applicable.

Model results and assumptions are provided in Appendix A.

As Table 7 shows, estimated unmitigated construction emissions for all pollutants are below ICAPCD significance thresholds.

Prior to construction, the construction contractor will perform recordkeeping of a construction equipment list. The equipment list will include the Make, Model, Horsepower, and actual hours of usage for off-road equipment. The equipment list(s) will be submitted periodically to the ICAPCD to perform a NOx analysis. The ICAPCD's NOx analysis will then be used to assure the Project has remained in compliance with the Less Than Significant Finding of this report. If the ICAPCD's NOx analysis indicates exceedances of thresholds, the Project would be mitigated per Policy 5.

The Project's operation is limited to inspection activities, conservatively assumed up to 4 employee vehicle trips per day, and panel cleaning events 4 times per year with 4 additional employees and 6 water truck trips per day. Operational emissions are summarized in Table 8. As shown, the Project emissions during operations of the facility would be well below the significance thresholds.

Table 8: Unmitigated Operational Emissions Summary

Activity	Pollutant Emission (pounds per day)				
	ROG	NOx	CO	PM_{10}	$PM_{2.5}$
Panel Washing	0.14	1.68	0.86	2.14	0. 26
Normal Maintenance	0.02	0.02	0.24	0.63	0.07
Peak Daily Emission (Total Operational)	*0.16*	*1.70*	*1.09*	*2.77*	*0.33*
ICAPCD Significance Thresholds	*137*	*137*	*550*	*150*	*550*
Threshold Exceeded?	*No*	*No*	*No*	*No*	*No*

ICAPCD significance thresholds are based on maximum daily emissions.

Emission were quantified using CalEEMod, version 2016.3.2 using "user defined industrial" category and modifying default values using project-specific data/assumptions, where available.

The data for PM_{10} and $PM_{2.5}$ emissions, include the standard mitigation for fugitive dust that is required for all projects in Imperial County.

Model results and assumptions are provided in Appendix A.

Decommissioning. The proposed Project is anticipated to operate a total of approximately 20 – 25 years. At the end of the Project site operational term, the applicant may determine that the Project site should be decommissioned and deconstructed, or it may seek an extension of its CUP. The emissions associated with decommissioning of the Project are not quantitatively estimated, as the extent of activities and emissions factors for equipment and vehicles at the time of decommissioning are unknown. The overall activity would be anticipated to be somewhat less than project construction, and the emissions from off-road and on-road equipment are expected to be much lower than those for the Project construction. However, without changes in fugitive dust control methods it is likely that fugitive dust emissions would be closer to those estimated for construction. Overall, similar to construction, emissions associated with decommissioning would be less than significant.

As presented above, the proposed Project would not violate any air quality standards or contribute substantially to an existing or projected air quality violation. The impact is less than significant, and no mitigation required; however, per requirements of ICAPCD, the standard mitigation measures would be implemented during construction and operation of the Project, including an Operational Dust Control Plan (ODCP) outlining strategies for controlling dust emissions during Project operations. The required ICAPCD mitigation measures (for all projects) are listed in Section 5.1 of this report.

Impact AQ-3 Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Some population groups, such as children, the elderly, and acutely and chronically ill persons are considered more sensitive to air pollution than others. Sensitive receptors locations typically include residential areas, hospitals, elder-care facilities, rehabilitation centers, daycare centers, and parks. The Project site is in a rural area surrounded by agricultural fields. Sensitive receptors located within one mile of the Project site consist of a few scattered rural homes, the nearest of which is located approximately 2,000 feet southwest of the Project site boundary.

Implementation of the proposed Project would not result in the long-term operation of any emission sources that would adversely affect nearby sensitive receptors. Short-term construction activities (6 to 9 months) could result in temporary increases in pollutant concentrations. Emissions of all criteria pollutants are below the ICAPCD thresholds and would not have any significant impact. The Project's emissions of toxic air pollutants would be minimal and would consist of DPM (diesel particulate matter) emissions during construction activities. The employee commuting to the site during project construction or operation would use gasoline-fueled vehicles.

In conclusion, because of the minimal emissions of DPM during the short-term Project construction (6 to 9 months), the distance from nearest sensitive receptor (2,000 feet), implementation of the Project would not expose sensitive receptors to substantial pollutant concentrations.

Fugitive Dust. During construction and operations activities, the Project would implement dust control measures as shown in Section 5.1, including an ODCP, to ensure receptors in the project vicinity would not be impacted by the Project's long-term dust emissions during operations.

Naturally Occurring Asbestos. Airborne asbestos is classified as a known human carcinogen and was identified by as a TAC by CARB in 1986. The California Geological Survey prepared maps and lists of the naturally occurring asbestos areas within California counties. According to the 2011 report, the proposed project location is not an area of naturally occurring asbestos (USGS 2011).

Impact AQ-4	**Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

No Impact. Short term Project construction occurs more than 1,200 feet from the nearest sensitive receptor in an agricultural rural set, therefore the odors from construction equipment would not affect sensitive receptors. Operation of the Project does not include any component with the potential to generate odorous emissions that could affect a substantial number of people. No impact would occur.

Impact AQ-5	**Would the project generate GHG emissions, either directly or indirectly, that may have an adverse effect on the environment?**

Beneficial Impact. The Project-related direct and indirect emissions of GHGs were estimated using the similar methods for quantification of criteria air pollutants. The estimated emissions are summarized in Table 9. Detailed assumptions and calculations, as well as CalEEMod outputs are provided in Appendix A of this report. Total GHG emissions from all phases of construction activities were amortized over the estimated 20-year life of the project and added to the annual operational emissions of GHGs. The Project would offset GHG emissions through renewable energy generation and thereby result in environmental benefits by lessening the impacts of global climate change, as such, the annual displaced GHG emissions were estimated to include all direct and indirect emissions associated with implementation of the Project. Project decommissioning emissions were not calculated as the equipment and fuel types that would exist 20 or more years in the future are unknown. Also as described above, it is anticipated that the decommissioning emissions would be lower than the construction emissions.

Table 9: Greenhouse Gas Emissions Summary

Emissions Source	GHG Emissions (Metric Tons CO_2e/year)
Construction Emissions – Amortized [1]	18.8
Operational Emissions – Facility site [2]	9.0
Displaced Emissions (from Project Operation) [3,4]	-65,165
Total Annual Emissions	-65,136
Significance Threshold [5]	3,000
Threshold Exceeded?	No

1. Total construction emissions amortized over project life of 20 years.
2. Includes direct and indirect emissions of project site operation and maintenance, not including the indirect displaced GHG emissions.
3. Estimation of emissions avoided due to displacement of fossil fuel powered electricity generation.
4. The CalEEMod value of carbon intensity factor for Imperial Irrigation District (IID) is used to estimate displaced GHG emissions.
5. In the absence of ICAPCD-adopted threshold for GHG emissions, the SCAQMD threshold of 3,000 MT/year for commercial projects is used. Calculations, assumptions and model outputs are provided in Appendix A

As Table 9 shows, the proposed Project's annual indirect GHG emissions from the displacement of fossil fuel fired electricity generation is significantly higher than the Project's annualized direct and indirect emissions sources, as such, the overall effect of the proposed Project is to reduce GHG emissions. Therefore, the proposed project would have a beneficial GHG emissions impact.

Impact AQ-6 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Less Than Significant Impact. Currently, there are no federal, State, or local climate change or GHG emissions regulations that address the GHG emissions Project construction. The project operation will, there are a number of federal, State, and local plans and policies, and GHG emissions reduction strategies that are potentially applicable to the proposed project, either directly or indirectly. The project operation is consistent with the followings

- The Project is consistent with the AB 32 scoping plan strategies to increase the total amount of renewable energy sources consistent with the goal of the State's Renewable Portfolio Standard (RPS).
- The Project is consistent with the CARB's emission reduction strategy presented in the Scoping Plans. The 2008 Scoping Plan specifically addresses critical measures directed at emission sources that are included in the cap-and-trade program that are designed to achieve cost-effective emissions reductions while accelerating the necessary transition to the low-carbon economy.
- The proposed Project implementation will help California meet its Renewable Portfolio Standard (RPS) requirements.

The Project would help promote California's GHG policies by creating renewable energy resources and would not exceed applicable GHG screening levels. Therefore, the proposed Project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. Moreover, Projects that are consistent with applicable plan, policy, or regulation adopted to reduce GHG emissions are considered less than significant during construction, operation and reclamation.

5.1 MITIGATION MEASURES

As discussed in the ICAPCD CEQA Handbook, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for control of fugitive dust. In addition, the Handbook lists additional (discretionary) mitigation measures that may be warranted as feasible, to control fugitive dust and equipment exhaust emissions.

5.2 CONSTRUCTION

In compliance with the ICAPCD requirements, the following measures would be implemented during construction of the Project:

AQ-MM.1 **Regulation VIII (Fugitive Dust Control Measures)**. All construction sites, regardless of size, must comply with the requirements contained within Regulation VIII.

5.2.1 Standard Mitigation Measures for Fugitive Dust (PM10) Control

a. All disturbed areas, including Bulk Material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps or other suitable material such as vegetative ground cover.

b. All on-site and off-site unpaved roads would be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.

c. All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day would be effectively stabilized and visible emission shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.

d. The transport of Bulk Materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of Bulk Material. In addition, the cargo compartment of all Haul Trucks is to be cleaned and/or washed at delivery site after removal of Bulk Material.

e. All Track-Out or Carry-Out would be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an Urban area.

f. Movement of Bulk Material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient amounts of water, chemical stabilizers or by sheltering or enclosing the operation and transfer line.

g. The construction of any new Unpaved Road is prohibited within any area with a population of 500 or more unless the road meets the definition of a Temporary Unpaved Road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

5.2.2 Discretionary Measures for Fugitive Dust (PM10) Control

For projects with construction site of 5 acres or more for non-residential developments, in order to provide a greater degree of PM_{10} reductions, above that required by Regulation VIII, the ICAPCD recommends the following:

a. Water exposed soil with adequate frequency for continued moist soil.

b. Replace ground cover in disturbed areas as quickly as possible.

c. Use automatic sprinkler system installed on all soil piles.

d. Limit vehicle speed for all construction vehicles to 15 miles per hour on any unpaved surface at the construction site.

e. Develop a trip reduction plan to achieve a 1.5 AVR for construction employees.

f. Implement a shuttle service to and from retail services and food establishments during lunch hours.

AQ-MM.2 Construction Equipment Control Measures

5.2.3 Standard Mitigation Measures for Equipment Exhaust Emissions Control

These include:

a. Use of equipment with alternative fueled or catalyst-equipped diesel engine, including for all off-road and portable diesel-powered equipment.

b. Minimize idling time either by shutting equipment off when not in use or limit the idling time to a maximum of 5 minutes.

c. Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the number of equipment in use.

d. Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

5.2.4 Enhanced Mitigation Measures for Construction Equipment

To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures.

a. Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.
b. Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

5.3 OPERATION

5.3.1 Operational Dust Control Plan

To help reduce fugitive dust emissions from onsite unpaved roads and accumulation of small dunes during operations, an Operational Dust Control Plan (ODCP) would be prepared. The ODCP would include strategies for how dust emissions would be controlled and maintained during Project operations. The ODCP would be submitted to the ICAPCD for approval prior to the issuance of a Certificate of Occupancy.

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Wister Solar Project Imperial County, California

Biological Resources Technical Report

March 20, 2019

Rev. January 27, 2020

Prepared for:

Orni 33 LLC.

Prepared by:

Stantec Consulting Services Inc.
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

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Prepared by  _____
(signature)
Rocky Brown, Associate Biologist

Reviewed by  _____
(signature)
StephAnnie Roberts, Senior Project Manager

Approved by  _____
(signature)
Jared Varonin, Principal Biologist

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Abbreviations

BSA	Biological Study Area
CCH	Consortium of California Herbaria
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ESA	Endangered Species Act
GPS	Global Positioning System
IID	Imperial Irrigation District
km/hr	Kilometers per hour
MW	Megawatt
MBTA	Migratory Bird Treaty Act
MSL	Mean Sea Level
NEPA	National Environmental Policy Act
NPPA	Native Plant Protection AcT
NRCS	Natural Resources Conservation Service
PPA	Power Purchase Agreement
Project	Wister Solar Project
RWQCB	Regional Water Quality Control Board
USACE	United States Army Corps of Engineers
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey
WDR	Waste Discharge Requirement

1.0 INTRODUCTION

This report is intended to document the biological resources that are associated with the Wister Solar Project (Project) in Imperial County, California (refer to Appendix A, Figure 1). The surveys and discussions presented in this report were conducted/prepared to support regulatory agency permitting and California Environmental Quality Act (CEQA) documentation. Surveys were conducted within the approximately 123-acre Project site and a 300-ft buffer (where accessible), defined as the Biological Study Area (BSA) (refer to Appendix A, Figure 1).

1.1 PURPOSE OF THE REPORT

The goal of this report is to document the current environmental conditions that occur within the BSA. This document will provide an emphasis on special-status plant and wildlife species, wildlife corridors, and special-status/sensitive natural communities, and in addition, evaluate the potential for these species to occur within the BSA.

1.2 PROJECT LOCATION

The Project is situated on Assessor's Parcel No. 003-240-001 within northern Imperial County, California, approximately two to three miles northeast of the community of Niland, approximately five miles east of the Salton Sea, and 0.5 miles southwest of the Coachella Canal (Appendix A, Figure 1). It is situated in Township 10 South, Range 14 East, Section 27 of the U.S. Geological Survey (USGS) Wister 7.5-minute topographic quadrangle. The BSA consists of a relatively undeveloped, square parcel of land with its southwest corner near the intersection of Weist and Wilkins Roads (Appendix A, Figure 2). The unpaved Gas Line Road runs north/south, relatively parallel inside the eastern Project boundary. The majority of the BSA is undisturbed with exception of the aforementioned Gas Line Road and an approximately five-acre area of previously graded land in the northwest portion of the site, adjacent to the western Project boundary. There is a transmission line extending from outside the northern boundary to outside the eastern Project boundary with an associated unpaved access road.

1.3 PROJECT DESCRIPTION

Orni 33 LLC., Inc. (Client) is proposing to construct, operate, and maintain a 20-Megawatt (MW) photovoltaic solar farm on the approximately 123-acre Project site. The project location is within a 640-acre Section (T10S, R14E, Section 27) owned by the Client. The Client is developing the Wister Solar Energy Facility in order to reasonably maximize the Project's generating capacity, taking into account land and environmental constraints. A Power Purchase Agreement (PPA) for 20-MW to San Diego Gas & Electric has been secured by the Client.

2.0 METHODOLOGIES

Stantec conducted a habitat assessment and biological resource survey within the BSA on January 30, 2019. This investigation included a reconnaissance-level survey, a non-protocol survey to detect the presence of special-status plant and wildlife species, and a non-protocol avian survey to detect the presence of listed songbirds. The survey was designed to encompass all habitat and terrain types present within the BSA. Activities were conducted throughout the BSA via vehicle or on-foot where accessible based on terrain and vegetative cover. Literature review and survey details are described in detail below.

2.1 LITERATURE REVIEW

A literature search focused on the BSA was conducted prior to field surveys. A search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was conducted for the Wister 7.5-minute topographic quadrangle to determine special-status plants, wildlife, and vegetation communities that have been documented within the vicinity of the BSA (CDFW, 2019a). The following eight adjacent quadrangles were also included in the database search to encompass potential occurrences of special-status species in the region surrounding the BSA:

- Frink NW
- Frink NE;
- Iris Pass;
- Frink;
- Iris Wash;
- Obsidian Butte;
- Niland; and
- Iris

Additional data regarding the potential occurrence of special-status species and policies relating to these special- status natural resources were gathered from the following sources:

- State and Federally Listed Endangered and Threatened Animals of California (CDFW, 2018b); Special Animals List (CDFW, 2018c);
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW, 2018d);
- Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2019);
- California Sensitive Natural Communities (CDFW, 2018e); and Consortium of California Herbaria (CCH, 2018).
- Flat Tailed Horned Lizard Survey. Barrett's Biological Surveys, August 2018.

2.2 BIOLOGICAL SURVEYS AND HABITAT ASSESSMENTS

2.2.1 Site Reconnaissance and Wildlife Surveys

In order to document the existing biological resources that are present in and adjacent to the BSA, on January 30, 2019, Stantec conducted a habitat assessment and reconnaissance-level survey, which included focused non-protocol surveys for special-status plant and wildlife species. The primary goals of the reconnaissance survey were to identify and assess habitat that may be capable of supporting special-status wildlife species and to document the presence/absence of special-status biological resources.

The BSA was investigated via vehicle and on-foot by experienced field biologists. Biologists conducted the survey by driving throughout the BSA and walking meandering transects through representative areas at an average pace of approximately 1.5 kilometers per hour (km/hr) while visually searching and listening for wildlife songs, calls, or other signs. Biologists ensured that all habitat and topographic conditions were encompassed during the walking surveys. Surveying was halted periodically to listen for wildlife and to identify, record, or enumerate any detected species. Terrestrial insects and other invertebrates were searched for on flowers and leaves, under loose bark, and under stones and logs on the ground throughout the BSA. Randomly selected areas within appropriate micro habitats (e.g., leaf litter, woody debris piles, etc.) were hand raked or visually inspected to determine the presence/absence of gastropods, reptiles, small mammals, and amphibians. Species present were identified and recorded through direct visual observation, sound, or their sign (e.g., scat, tracks, etc.) and all potential refugia sites searched were returned to their original state upon completion of inspection. Species identifications conform to the most up-to-date field guides and technical literature.

To the extent possible, surveys were conducted during a season and time of day where migratory birds were expected to be present, resident bird species were nesting and fledging, small mammals were active and detectable visually or by sign, and above-ground amphibian and reptile movement would generally be detectable. However, it should be noted that some wildlife species and/or individuals may have been difficult to detect due to their elusive nature, cryptic morphology, or nocturnal behavior. Surveys were conducted during daylight hours when temperatures were such that reptiles and other wildlife would be active (i.e., between 75-95° Fahrenheit).

All plant species identified during the survey are listed in Table 2, and a list of wildlife observed within the BSA is presented in Table 3. Known and potential occurrences of special status plant taxa are discussed in Table 6, and known and potential occurrences of special status wildlife species are discussed in Table 7.

2.2.2 Vegetation Mapping

Vegetation descriptions and names are based on Sawyer et al. (2009) and have been defined at least to the alliance level. Vegetation maps were prepared by recording tentative vegetation type boundaries over recent aerial photograph base maps using the Esri® Collector for ArcGIS app on an Apple® iPad® coupled with a Bad Elf® GNSS Surveyor sub-meter external global positioning system (GPS) unit. Mapping was further refined in the office using ArcGIS (version 10.4) with aerial photograph base maps with an accuracy of one foot. Most boundaries shown on the maps are accurate within approximately three feet; however, boundaries between some vegetation types are less precise due to difficulties interpreting aerial imagery and accessing stands of vegetation. Vegetation communities are discussed further in Section 4.2 and are depicted in Figure 2 included in Appendix A.

Vegetation communities can overlap in many characteristics and over time may shift from one community type to another. Note also that all vegetation maps and descriptions are subject to variability for the following reasons:

- In some cases, vegetation boundaries result from distinct events, such as wildfire or flooding, but vegetation types usually tend to intergrade on the landscape, without precise boundaries between them. Even distinct boundaries caused by fire or flood can be disguised after years of post-disturbance succession. Mapped boundaries represent best professional judgment, but usually should not be interpreted as literal delineations between sharply defined vegetation types.
- Natural vegetation tends to exist in generally recognizable types, but also may vary over time and geographic region. Written descriptions cannot reflect all local or regional variation. Many (perhaps most) stands of natural vegetation do not strictly fit into any named type. Therefore, a mapped unit is given the best name available in the classification system being used, but this name does not imply that the vegetation unambiguously matches written descriptions.
- Vegetation tends to be patchy. Small patches of one named type are often included within larger stands mapped as units of another type. For this Study Area, the minimum mapping unit was approximately three feet, and smaller inclusions are described in the text but are not visible on the maps.

2.2.3 Jurisdictional Delineation

Prior to performing the general biological evaluation, Stantec conducted a formal jurisdictional waters delineation on April 12, 2018, per US Army Corps of Engineers (USACE). During that survey, the BSA was evaluated for potential wetlands and/or waters subject to federal and/or state jurisdiction pursuant to Section 404 and 401 of the Clean Water Act (CWA). The jurisdictional assessment also included an investigation of areas that could be jurisdictional pursuant to Section 1600 et seq. of the California Fish and Game Code. Prior to conducting the jurisdictional delineation, Stantec reviewed current and historic aerial imagery, topographic maps, soil maps (USDA, 2018), local and state hydric soils lists, and the National Wetlands Inventory (USFWS, 2006) to evaluate the potential active channels and wetland features that occur within the BSA. During the field assessment, hydrologic features were mapped using the same data collection equipment described above for vegetation mapping. Field data were further manipulated in the office using GIS and total jurisdictional area for each regulatory jurisdiction calculated. The results of the jurisdictional survey were presented in the Wister Solar Project Preliminary Jurisdictional Waters/Wetlands Delineation Report, dated June 12, 2018 and revised January 27, 2020, are summarized in Section 4.4, and depicted in Figure 3 included in Appendix A.

3.0 REGULATORY FRAMEWORK

3.1 FEDERAL REGULATIONS

3.1.1 Federal Endangered Species Act

Federal Endangered Species Act (ESA) provisions protect federally listed threatened and endangered species and their habitats from unlawful take and ensure that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Under the ESA, "take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." The U.S. Fish & Wildlife Service's (USFWS) regulations define harm to mean "an act which actually kills or injures wild-life." Such an act "may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR § 17.3).

Critical habitat is defined in Section 3(5)(A) of the ESA as "(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features (I) essential to the conservation of the species, and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior (Secretary) that such areas are essential for the conservation of the species."

The effects analyses for designated critical habitat must consider the role of the critical habitat in both the continued survival and the eventual recovery (i.e., the conservation) of the species in question, consistent with the Ninth Circuit juridical opinion, Gifford Pinchot Task Force v. USFWS. Activities that may result in "take" of individuals are regulated by the USFWS. The USFWS produced an updated list of candidate species December 6, 2007 (72 FR 69034). Candidate species are not afforded any legal protection under ESA; however, candidate species typically receive special attention from Federal and State agencies during the environmental review process.

3.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) makes it unlawful to possess, buy, sell, purchase, barter, or "take" any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. "Take" is defined as possession or destruction of migratory birds, their nests or eggs. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. The MBTA prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary. This act encompasses whole birds, parts of birds, and bird nests and eggs.

3.1.3 Bald and Golden Eagle Protection Act of 1940 (16 USC 668)

The Bald Eagle Protection Act of 1940 (16 U.S.C. 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. Take of bald and golden eagles is defined as follows: “disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior’’ (72 FR 31132; 50 CFR 22.3).

The USFWS is the primary federal authority charged with the management of golden eagles in the United States. A permit for take of golden eagles, including take from disturbance such as loss of foraging habitat, may be required if this project affects such resources. USFWS guidance on the applicability of current Eagle Act statutes and mitigation is currently under review. On November 10, 2009, the USFWS implemented new rules (74 FR 46835) governing the “take” of golden and bald eagles. The new rules were released under the existing Bald and Golden Eagle Act which has been the primary regulation protection unlisted eagle populations since 1940.

All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this act. The definition of disturb (72 FR 31132) includes interfering with normal breeding, feeding, or sheltering behavior to the degree that it causes or is likely to cause decreased productivity or nest abandonment. If a permit is required, due to the current uncertainty on the status of golden eagle populations in western United States, it is expected permits would only be issued for safety emergencies or if conservation measures implemented in accordance with a permit would result in a reduction of ongoing take or a net take of zero.

3.1.4 Federally Regulated Habitats

Areas meeting the regulatory definition of “Waters of the U.S.” (Jurisdictional Waters) are subject to the jurisdiction of the United States Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (CWA) (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as “Waters of the U.S.,” tributaries of waters otherwise defined as “Waters of the U.S.,” the territorial seas, and wetlands (termed Special Aquatic Sites) adjacent to “Waters of the U.S.” (33 CFR, Part 328, Section 328.3). Wetlands on non-agricultural lands are identified using the Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). The Project Area falls within the South Pacific Division of the USACE and is under the jurisdiction of the Los Angeles District.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit would be effective in the absence of State water quality certification pursuant to Section 401 of the CWA. As a part of the

permit process, the USACE works directly with the USFWS to assess potential project impacts on biological resources.

3.1.5 National Environmental Policy Act

The National Environmental Policy Act of 1969 (NEPA) requires all Federal agencies to examine the environmental impacts of their actions, incorporate environmental information, and utilize public participation in the planning and implementation of all actions. Federal agencies must integrate NEPA with other planning requirements and prepare appropriate NEPA documents to facilitate better environmental decision making. NEPA requires Federal agencies to review and comment on Federal agency environmental plans/documents when the agency has jurisdiction by law or special expertise with respect to any environmental impacts involved (42 U.S.C. 4321- 4327) (40 CFR 1500-1508).

3.2 STATE REGULATIONS

3.2.1 California Environmental Quality Act

CEQA establishes State policy to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by public agencies. Regulations for implementation are found in the State CEQA Guidelines published by the Resources Agency. These guidelines establish an overall process for the environmental evaluation of projects.

3.2.2 California Endangered Species Act

Provisions of the California Endangered Species Act protect State-listed Threatened and Endangered species. The CDFW regulates activities that may result in “take” of individuals (“take” means “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the California Fish and Game Code. Additionally, the California Fish and Game Code contains lists of vertebrate species designated as “fully protected” (California Fish & Game Code §§ 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], 5515 [fish]). Such species may not be taken or possessed.

In addition to Federal and State-listed species, the CDFW also has produced a list of Species of Special Concern to serve as a “watch list.” Species on this list are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Species of Special Concern may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected in California under the State Fish and Game Code. Section 3503.5 states it is “unlawful to take, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) 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 could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. Under Sections 3503 and 3503.5 of the State Fish and Game Code, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory nongame bird as designated in the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to Fish and Game Code Section 3800 are prohibited.

3.2.3 Native Plant Protection Act (Fish & Game Code 1900-1913)

California's Native Plant Protection Act (NPPA) requires all State agencies to utilize their authority to carry out programs to conserve endangered and rare native plants. Provisions of NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The Applicant is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

3.2.4 Section 3503 & 3503.5 of the Fish and Game Code

Under these sections of the Fish and Game Code, the Applicant is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory non-game bird as designated in the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non- game birds protected by the MBTA, or the taking of any non-game bird pursuant to Fish and Game Code Section 3800.

3.2.5 Porter-Cologne Water Quality Control Act

Regional water quality control boards (RWQCBs) regulate the "discharge of waste" to "waters of the State." All projects proposing to discharge waste that could affect waters of the State must file a waste discharge report with the appropriate regional board. The board responds to the report by issuing waste discharge requirements (WDR) or by waiving WDRs for that project discharge. Both of the terms "discharge of waste" and "waters of the State" are broadly defined such that discharges of waste include fill, any material resulting from human activity, or any other "discharge." Isolated wetlands within California, which are no longer considered "waters of the United States" as defined by Section 404 of the CWA, are addressed under the Porter-Cologne Act. The Project Area falls under the jurisdiction of the Colorado River RWQCB.

3.2.6 State-Regulated Habitats

The State Water Resources Control Board is the State agency (together with the RWQCBs) charged with implementing water quality certification in California.

The CDFW extends the definition of stream to include "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS-defined), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered

streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife" (CDFW, 1994).

Activities that result in the diversion or obstruction of the natural flow of a stream; or which substantially change its bed, channel, or bank; or which utilize any materials (including vegetation) from the streambed, may require that the project Applicant enter into a Streambed Alteration Agreement with the CDFW.

3.3 LOCAL REGULATIONS

3.3.1 Imperial County General Plan – Conservation and Open Space Element

The Conservation and Open Space Element of the Imperial County General Plan contains policies and programs that are designed to protect and conserve environmental resources in the County while encouraging economic development and growth. Resources covered under the Conservation and Open Space Element consist of the following: biological resources, cultural resources, geology and soils, mineral resources, regional aesthetics, air quality and climate change, and open space and recreation.

The Goals and Objectives relative to natural resources that apply to the Project are as follows:

Conservation of Environmental Resources for Future Generations

Goal 1 Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value.

- **Objective 1.1** Encourage uses and activities that are compatible with the fragile desert environment and foster conservation.
- **Objective 1.2** Coordinate the acquisition, designation, and management of important natural and cultural resource areas in Imperial County with other governmental agencies as appropriate.
- **Objective 1.4** Ensure the conservation and management of the County's natural and cultural resources.
- **Objective 1.6** Promote the conservation of ecological sites and preservation of cultural resource sites through scientific investigation and public education.

Conservation of Biological Resources

Goal 2 The County will integrate programmatic strategies for the conservation of critical habitats to manage their integrity, function, productivity, and long-term viability.

- **Objective 2.1** Designate critical habitats for Federally and State-listed species.
- **Objective 2.2** Develop management programs, including preservation of habitat for flat-tailed horned lizard, desert pupfish, and burrowing owl.
- **Objective 2.4** Use the CEQA and NEPA process to identify, conserve, and restore sensitive vegetation and wildlife resources.

- **Objective 2.6** Attempt to identify, reduce, and eliminate all forms of pollution; including air, noise, soil, and water.

The Policies and Programs relative to natural resources that apply to the Project are as follows:

Biological Resource Conservation

Policy – Provide a framework for the conservation and enhancement of natural and created open space which provides wildlife habitat values.

Programs

- Identify Resource Areas to conserve and enhance native vegetation and wildlife. These areas include agency designated sensitive habitats with the USFWS, Bureau of Land Management Areas of Critical Environmental Concern, and CDFW. These designated lands are designed for the protection and perpetuation of rare, endangered, and threatened species and areas important for scientific study.
- Projects within or in the vicinity of a Resource Area should be designed to minimize adverse impacts on the biological resources it was created to protect.
- Develop an environmental mitigation program that protects and restores Salton Sea wildlife habitats as offsets to biological disturbances identified through the CEQA review process for development projects. The program would allow the County and/or Salton Sea Joint Powers Authority to restore habitat through financing mechanisms including land banks and/or direct financial contributions from the developers to mitigate their impacts.
- Protect riparian habitat and other types of wetlands from loss or modification by dedicating open space easements with adequate buffer zones, and by other means to avoid impacts from adjacent land uses. Road crossings or other disturbances of riparian habitat should be minimized and only allowed when alternatives have been considered and determined infeasible.
- Preserve existing California fan palms in natural settings and other individual specimen trees which contribute to the community character and provide wildlife habitat.
- Preserve and encourage the open space designation of wildlife corridors which are essential to the long-term viability of wildlife populations.
- Integrate open space dedications in private developments with surrounding uses to maximize a functional open space/recreation and wildlife management system.

Policy – Landscaping should be required in all developments to prevent erosion on graded sites and, if the area is contiguous with undisturbed wildlife habitat, the plan should include revegetation with native plant species.

Programs

- Revegetation plans shall be submitted and approved by the Imperial County Planning and Development Services Department and relevant resource agencies for the mitigation of sensitive habitat lost, and for disturbed areas created by roads or installation of facilities adjacent to native habitat. Such plans shall mitigate for the loss of sensitive habitat and habitat value based on a ratio consistent with accepted policy, as recommended by the State and Federal resource agencies.

3.4 OTHER APPLICABLE REGULATIONS, PLANS, AND STANDARDS

3.4.1 California Native Plant Society Rare Plant Program

The mission of the California Native Plant Society (CNPS) Rare Plant Program is to develop current, accurate information on the distribution, ecology, and conservation status of California's rare and endangered plants, and to use this information to promote science-based plant conservation in California. Once a species has been identified as being of potential conservation concern, it is put through an extensive review process. Once a species has gone through the review process, information on all aspects of the species (e.g., listing status, habitat, distribution, threats, etc.) are entered into the online CNPS Inventory and given a California Rare Plant Rank (CRPR). In 2011, the CNPS officially changed the name "CNPS List" to "CRPR." The Program currently recognizes more than 1,600 plant taxa (species, subspecies and varieties) as rare or endangered in California.

Vascular plants listed as rare or endangered by the CNPS, but which might not have a designated status under State endangered species legislation, are defined by the following CRPR:

- CRPR 1A - Plants considered by the CNPS to be extinct in California
- CRPR 1B - Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2 - Plants rare, threatened, or endangered in California, but more numerous elsewhere
- CRPR 3 - Plants about which we need more information – a review list
- CRPR 4 - Plants of limited distribution – a watch list

In addition to the CRPR designations above, the CNPS adds a Threat Rank as an extension added onto the CRPR and designates the level of endangerment by a 1 to 3 ranking, with 1 being the most endangered and 3 being the least endangered and are described as follows:

- 0.1 – Seriously threatened in California (high degree/immediacy of threat)
- 0.2 – Fairly threatened in California (moderate degree/immediacy of threat)
- 0.3 – Not very threatened in California (low degree/immediacy of threats or no current threats known.

4.0 EXISTING CONDITIONS

4.1 SETTING

As depicted in Figures 1 and 2, the BSA is located in the northern portion of Imperial County, approximately two- miles northeast of the community of Niland, approximately five-miles east of the Salton Sea, and 0.5-mile southwest of the Coachella Canal. It is situated within Section 27 of Township 10S, Range 14E of the Wister U.S. Geological Survey (USGS) 7.5-minute quadrangle. Positioned within the Imperial Valley at the base of the foothills of the Chocolate Mountains to the northeast, the BSA is relatively flat, though there are slopes slightly from northeast to southwest with elevations ranging from approximately 20 feet above mean sea level (MSL) to approximately 30 feet below MSL.

The BSA is considered “Recreational Open Space” by Imperial County. It is bordered largely by open space to the north, east, and south, with agricultural lands (orchards) occurring to the west and northwest. An existing solar generating facility occurs approximately 0.5 mile south and a County landfill is located to the east of the BSA. While it is largely undeveloped, the unpaved Gas Line Road passes roughly parallel to the eastern boundary of the BSA and a transmission line and associated unpaved access road run from outside the eastern boundary from north to south. The East Highline Canal, an Imperial Irrigation District (IID) water delivery conveyance passes through the extreme southwestern corner of the BSA.

The region experiences a desert climate characterized by hot, dry summers and warm winters. Average annual temperatures range from 42 degrees Fahrenheit in December to 107 degrees Fahrenheit in July, and average annual precipitation measures 2.87 inches (US Climate Data, 2018).

4.2 VEGETATION AND LAND COVERS

Biological resources observed within the BSA during the field survey were comprised primarily of common plant species and vegetation communities characteristic of the Colorado Desert habitat prevalent throughout Imperial County. Habitat conditions within the BSA were noted to be of generally good quality, with well-established communities comprised primarily of native shrub and tree species. Within the BSA, Stantec biologists mapped three plant communities defined by Sawyer et al. (2009) and one additional land cover type. These are described in Section 4.2.1 below, summarized in Table 1, and depicted in Figure 2 included in Appendix A. Small, localized areas occupied by other plant communities were also observed within the BSA; however, the areas were less than the minimum mapping unit dictated by the size of the survey area and thus, were not mapped.

4.2.1 Vegetation Communities and Land Cover Types

4.2.1.1 Vegetation Communities

Creosote Bush – White Bursage Scrub

This is the primary land cover type occurring throughout most of the BSA. Creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) are the co-dominant species, though vegetative cover throughout the BSA. Other shrub species present within this community include a number of saltbush species (*Atriplex* spp.*)* and desert thorn (*Lyceum brevipes*). The sparse understory consists of native and non-native herbaceous species such as desert dandelion (*Malacothrix glabrata*) and desert plantain (*Plantago ovata*) and non-native grasses, primarily bromes (*Bromus* spp.) and Mediterranean grass (*Schismus barbatus*).

Arrow Weed Thickets

This is the dominant vegetation along the small section of the East Highline Canal in the southwestern corner of the BSA. Arrow weed thickets within the BSA are dominated by arrow weed (*Pluchea sericea*). Other species such as cattails (*Typha* spp.), common reed (*Phragmites australis*), and saltcedar (*Tamarix ramosissima*) are also present, but much less common. Arrow weed thickets are recognized by CDFW as a sensitive vegetation type.

Blue Palo Verde – Ironwood Woodland

This vegetation community occurs along the margins of some of the larger drainage features within the BSA, particularly in the southeast portion of the site. This community is dominated by desert ironwood (*Olneya tesota*) trees, though a few blue palo verde (*Parkinsonia florida*) and honey mesquite (*Prosopis glandulosa*) trees are sparsely interspersed throughout the community. Understory consists of white bursage, creosote bush, and brome grasses.

Tamarisk Thickets

This vegetation community occurs along the small section of the East Highline Canal in the southwestern corner of the BSA. It is comprised of a monoculture of mature tamarisk trees (*Tamarix ramosissima*) up to approximately 40 feet tall with no appreciable understory.

4.2.1.2 Other Land Cover Types

Disturbed/Developed

This land cover type was used to map portions of the BSA that are developed, primarily unpaved roadways. Where vegetated, these areas are generally composed of scarce occurrences of native and non-native herbaceous species common to the vegetation communities through which they pass.

Agriculture

This land cover type was used to map areas of active agriculture. Within the BSA, areas mapped as Agriculture were limited to citrus farms located within and adjacent to the northwest corner of the BSA.

Table 1 Vegetation Communities and Land Cover Types Occurring within the BSA and Impacts

Vegetation Community/Land Cover Type	Acreage within BSA	Acreage of Permanent Project Impacts	Acreage of Temporary Project Impacts
Creosote bush – White Bursage Scrub	279.83	115.30	0.14
Arrow Weed Thickets	0.41	--	--
Blue Palo Verde – Iron Woodland	9.87	0.19	0.00
Tamarisk Thickets	0.29	--	--
Disturbed/Developed	21.80	4.95	2.05
Agriculture	7.92	--	--
Total	**320.12**	**120.44**	**2.19**

4.2.2 Common Plant Species Observed

Plants observed during the January 2019 reconnaissance-level survey, were recorded; however, a focused, floristic- level survey was not conducted. The survey resulted in the documentation of 38 species of native and non-native plants within the BSA, a list of which is provided in Table 2, below.

Table 2 Plant Species Observed within the BSA

Scientific Name	Common Name
Acacia greggii	cat's claw
Acmispon sp.	--
Ambrosia dumosa	white bursage
Astragalus sp.	--
Atriplex canescens	fourwing saltbush
Atriplex hymenelytra	desert holly
Atriplex lentiformis	Quailbush
*Brassica tournefortii***	Sahara mustard
Chaenactis stevioides	Esteve pincushion
Chenopodium sp.	--
Chorizanthe rigida	Devil's spineflower
Chylismia claviformis	Primrose

Scientific Name	Common Name
Cryptantha sp.	--
Cylindropuntia sp.	Cholla
Datura stramonium	Jimson weed
Distichlis spicata	Saltgrass
Encelia farinose	Brittlebush
Eriogonum sp.	Buckwheat
Erodium sp.	--
Galium angustifolium	narrow-leaved bedstraw
Hilaria rigida	big galleta
Larrea tridentata	creosote bush
Lycium brevipes	desert thorn
Malacothrix glabrata	desert dandelion
*Melilotus officinalis***	sweet clover
Olneya tesota	Ironwood
Palafoxia arida var. arida	desert needle
Parkinsonia florida	blue palo verde
*Phoenix dactylifera***	date palm
*Phragmites australis***	common reed
Plantago ovata	desert plantain
*Polypogon monspeliensis***	rabbit's foot grass
Prosopis glandulosa	honey mesquite
Psorothamnus fremontii	indigo bush
*Schismus barbatus***	old han schismus
Sesuvium verrucosum	western sea purslane
*Sisymbrium irio***	London rocket
Suaeda nigra	bush seepweed
*Tamarix ramosissima***	salt cedar

* No special-status plant species were observed in the BSA

** Non-native Species

4.3 COMMON WILDLIFE

4.3.1 Invertebrates and Gastropods

While a focused survey for insects was not conducted within the BSA during the January 2019 survey event; randomly selected areas within the appropriate micro habitats (e.g., leaf litter, woody debris piles, etc.) were hand raked or visually inspected to determine the presence/absence of invertebrates and gastropods, as a variety of common insects are known to occur in the area. Conditions in the BSA provide a suite of microhabitat variations for a wide variety of terrestrial insects and other invertebrates.

As in all ecological systems, invertebrates in the BSA play a crucial role in a number of biological processes. They serve as the primary or secondary food source for a variety of bird, reptile, and mammal predators; they provide important pollination vectors for numerous plant species; they act as efficient components in controlling pest populations; and they support the naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients. The hand raked and visually inspected areas of the BSA detected a wide variety of common and non-native invertebrates. Some of the orders identified in the BSA included beetles (*Coleoptera* sp.), flies (*Diptera* sp.), grasshoppers (*Orthoptera* sp), moths and butterflies (*Lepidoptera* sp.), wasps, bees, and ants (*Hymenoptera* sp.), and dragonflies and damselflies (*Odonata* sp.),.

4.3.2 Fish

Though ephemeral drainages occur throughout much of the BSA, these remain dry under normal circumstances and would not support aquatic species. IID irrigation canals such as the East Highline Canal, which traverses the extreme southwestern corner of the BSA, are known to support fish species including channel catfish (*Ictalurus punctatus*), bass (*Micropterus* sp.), and sunfish (*Lepomis* sp.).

4.3.3 Amphibians

According to the Imperial County General Plan Environmental Impact Report (County of Imperial, 1993), 31 species of amphibians are known to occur within the County. Amphibians often require a source of standing or flowing water to complete their life cycle. However, some terrestrial species can survive in drier areas by remaining in moist environments or by burrowing into the soil. Downed logs, bark, and other woody material in various stages of decay (often referred to as coarse woody debris), resources which are largely absent from the BSA, likely provide shelter and feeding sites for a variety of wildlife, including amphibians and reptiles (Maser and Trappe, 1984; Aubry et al., 1988).

These species are highly cryptic and often difficult to detect. Amphibians all require aquatic habitat for all or part of their life cycle, which may only be present within the BSA (except for the East Highline Canal) for a short period time during and immediately after substantial rain events. Therefore, amphibians are not expected to occur throughout the vast majority of the BSA. Common species known to occur in the region associated with more permanent sources of water provided by irrigation infrastructure include the Rio Grande leopard frog (*Lithobates berlandieri*), American bullfrog (*L. catesbeianus*), and Great Plains toad (*Anaxyrus cognatus*).

4.3.4 Reptiles

The number and type of reptile species that may occur at a given site is related to a number of biotic and abiotic features. These include the diversity of plant communities, substrate, soil type, and presence of refugia such as rock piles, boulders, and native debris. Weather conditions were favorable during the survey for reptile activity.

No reptile species were observed in the BSA at the time of the reconnaissance survey. Although not observed, several common reptiles known to occur in the region are likely to occur in the BSA. Many

reptile species, even if present, are difficult to detect because they are cryptic and their life history characteristics (e.g., foraging, thermoregulatory behavior, fossorial nature, camouflage etc.) limit their ability to be observed during most surveys. Further, many species are only active within relatively narrow thermal limits, avoiding both cold and hot conditions, and most take refuge in microhabitats that are not directly visible to the casual observer, such as rodent burrows, in crevices, under rocks and boards, and in dense vegetation where they are protected from unsuitable environmental conditions and predators (USACE and CDFG, 2010). In some cases, they are only observed when flushed from their refugia. Although these species were not detected, suitable habitat conditions for a number of common reptiles were observed within the BSA, including sidewinder (*Crotalus cerastes*), Sonoran gopher snake (*Pituophis catenifer affinis*), western whiptail (*Aspidoscelis tigris*), desert iguana (*Dipsosaurus dorsalis*), and zebra-tailed lizard (*Callisaurus draconoides*).

4.3.5 Birds

Birds were identified by sight and sound and were infrequently observed throughout the BSA. The most common bird species observed was sagebrush sparrow (*Artemisiospiza nevadensis*), though mourning dove (*Zenaida macroura*) and flyovers by turkey vulture (*Cathartes aura*) and American kestrel (*Falco sparverius)* were also noted. It is possible that many other birds use the BSA at different periods, either as wintering habitat, seasonal breeding, or as occasional migrants. Although not detected in the BSA suitable habitat conditions for a number of common birds known to occur in the region were observed at the time of the survey. These including greater roadrunner (*Geococcyx californianus*), ladder-backed woodpecker (*Dryobates scalaris*), Gambel's quail (*Callipepla gambelii*), and phainopepla (*Phainopepla nitens*).

4.3.6 Mammals

Generally, the distribution of mammals on a given site is associated with the presence of factors such as access to perennial water, topographical and structural components (e.g., rock piles, vegetation) that provide cover and support prey base, and the presence of suitable soils for fossorial mammals (e.g., sandy areas). Signs of mammal species (tracks, scat, etc.) were detected, but no individuals were observed during the January 2019 reconnaissance survey , a number of common mammals are expected to occur within the BSA given the habitat conditions and species that are known to occur in the region. These may include round-tailed ground squirrel (*Xerospermophilus tereticaudus*), desert cottontail (*Sylvilagus audubonii*), kangaroo rats (*Genus Dipodomys*), coyote (*Canis latrans*), kit fox (*Vulpes macrotis),* and raccoon (*Procyon lotor*). No special-status mammal species were observed in the BSA.

Although bats were not detected in the BSA, they likely forage and roost in the region, particularly associated with riparian/irrigation canal corridors. Many bats tend to concentrate foraging activities in riparian habitats similar to those occurring within IID irrigation canals adjacent to the BSA where insect abundance is high (CDFW, 2000).

Table 3 Wildlife Species Observed in the BSA

Scientific Name	Common Name
Artemisiospiza nevadensis	sagebrush sparrow
Cathartes aura	turkey vulture (flyover)
Falco sparverius	American kestrel (flyover)
Vulpes macrotis arsipus	desert kit fox
Zenaida macroura	mourning dove

*No special-status species were observed in the BSA at the time of the survey.

4.4 JURISDICTIONAL WATERS/WETLANDS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California: the USACE Regulatory Program regulates activities pursuant to Section 404 of the federal CWA; the CDFW regulates activities under the Fish and Game Code Section 1600-1607; and the RWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Two types of jurisdictional features were documented within the BSA: USACE non-wetland Waters of the U.S. and CDFW State Waters. The site is bisected from northeast to southwest by numerous braided ephemeral drainage channels, which contain surface water only during heavy storm events, draining the mountains to the northeast.

These drainages ultimately flow into the Salton Sea, which is considered a Traditionally Navigable Water. As such, these drainage features would likely be considered federally and state jurisdictional. Representative photographs are provided in Appendix C. The extent of jurisdictional features within the BSA is summarized in Table 4, below, and depicted in Figure 3 included in Appendix A; refer to the Preliminary Jurisdictional Wetlands/Waters Delineation Report for additional information.

Table 4 Jurisdictional Features Occurring within the BSA and Impacts

Wetland Waters of the U.S. (acres)			Non-Wetland Waters of the U.S. (acres)			CDFW Jurisdictional Waters (acres)		
Survey Area	**Project Temporary Impact Area**	**Project Permanent Impact Area**	**Survey Area**	**Project Temporary Impact Area**	**Project Permanent Impact Area**	**Survey Area**	**Project Temporary Impact Area**	**Project Permanent Impact Area**
0.00	0.00	0.00	19.15	0.07	6.00	25.83	0.10	8.20

4.5 SOILS

Prior to conducting the field reconnaissance, historic soils data from the Natural Resources Conservation Service (NRCS) was used to determine potential soil types that may occur within the BSA, including where hydric soils may have historically occurred (refer to Figure 4, included in Appendix A). Table 5

below summarizes the characteristics of soils present on the site. Of the soils listed below, “Niland gravelly sand” appears on the NRCS hydric soils list

Table 5 Historic Soils Occurring within the BSA

Map Unit Symbol	Map Unit Name	Description
124	Niland gravelly sand	A moderately well-drained soil that occurs on basin floors at elevations between -230 to 300 feet; parent material consists of alluvium derived from mixed sources; gravelly sand (0-23”), silty clay (23-60”)
128	Niland-Imperial complex, wet	A moderately well-drained soil that occurs on basin floors at elevations between -230 to 300 feet; parent material consists of alluvium derived from mixed sources; low runoff; gravelly sand (0-23”), silty clay (23-60”)
144	Vint and Indio very fine sandy loams, wet	A moderately well-drained soil that occurs on basin floors at elevations between -230 to 300 feet parent material consists of alluvium derived from mixed sources and/or eolian deposits derived from mixed sources; very low runoff; very fine sandy loam (0-10”), loamy fine sand (10-40”), silty clay (40-60”)
NOTCOM	No Digital Data Available	N/A

5.0 SPECIAL STATUS BIOLOGICAL RESOURCES

The background information presented above, combined with field observations taken during the survey, was used to generate a list of special-status natural communities and special-status plant and animal taxa that either occur or may have the potential to occur within the BSA and/or adjacent habitats. For the purposes of this report, special-status taxa are defined as plants or animals that:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under either the California or Federal ESAs;
- Are candidate species being considered or proposed for listing under these same acts;
- Are recognized as Species of Special Concern by the CDFW;
- Are ranked as CRPR 1, 2, 3 or 4 plant species;
- Are fully protected by the California Fish and Game Code, Sections 3511, 4700, 5050, or 5515; or
- Are of expressed concern to resource/regulatory agencies, or local jurisdictions

5.1 SPECIAL STATUS NATURAL COMMUNITIES

Special-status natural communities are defined by CDFW (2009) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." All vegetation within the state is ranked with an "S" rank, however only those that are of special concern (S1-S3 rank) are generally evaluated under CEQA. Arrow weed thickets are listed with a rank of S3 and approximately 0.47 acres of this habitat type occurs within the BSA.

5.2 DESIGNATED CRITICAL HABITAT

Literature review conducted prior to conducting field surveys determined that the nearest critical habitat to the BSA is for desert tortoise (*Gopherus agassizii*), which occurs approximately 4 miles to the northeast of the BSA. Marginally suitable habitat for this species was present within and adjacent to the BSA.

5.3 SPECIAL STATUS PLANTS

No special-status plants were observed within the BSA during the January 2019 reconnaissance survey. Table 6 presents a list of special-status plants, including federally- and state-listed species and CRPR 1-4 species that are known to occur in the region surrounding the BSA (within 10 miles). A records search of the CNDDB, the CNPS Online Inventory, and the Consortium of California Herbaria (CCH) was performed for special-status plant taxa and non-protocol plant surveys were conducted within the BSA (refer to Figures 5A and 5B included in Appendix A). Each of the taxa identified in the record searches was assessed for their potential to occur within the BSA based on the following criteria:

- **Present**: Taxa were observed within the BSA during recent botanical surveys or population has been acknowledged by CDFW, USFWS, or local experts.

- **High**: Both a documented recent record (within 10 years) exists of the taxa within the BSA or immediate vicinity (approximately 5 miles) and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- **Moderate**: Both a documented recent record (within 10 years) exists of the taxa within the BSA or the immediate vicinity (approximately 5 miles) and the environmental conditions associated with taxa presence are marginal and/or limited within the BSA; the BSA is located within the known current distribution of the taxa and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- **Low**: A historical record (over 10 years) exists of the taxa within the BSA or general vicinity (approximately 10 miles) and the environmental conditions (including soil type) associated with taxa presence are marginal and/or limited within the BSA.
- **Not Likely to Occur:** The environmental conditions associated with taxa presence do not occur within the BSA.

Table 6 Known and Potential Occurrences of Special-Status Plant Taxa within the BSA

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Astragalus insularis var. hardwoodii Harwood's milk-vetch	2B.2	Sandy or gravelly. Desert dunes, Mojavean desert scrub. <500 m.	Jan-May	**High**: Suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is from 2005, approximately 3 miles to the northwest**.**
Astragalus sabulonum Gravel milk-vetch	2B.2	Usually sandy, sometimes gravelly. Flats, washes, and roadsides. Desert dunes, Mojavean desert scrub, Sonoran Desert scrub. -60 to 885 m.	Feb-Jun	**Moderate**: Suitable habitat occurs within the BSA and the nearest occurrence to the BSA is less than a mile to the south, though it is from 1906.
Chylismia arenaria Sand evening-primrose	2B.2	Rocky, steep slopes. Sonoran Desert scrub, (sandy or rocky). <430 m.	Nov-May	**Low**: Suitable habitat does not occur within the BSA. The nearest occurrence to the BSA is approximately 9 miles northeast.
Cylindropuntia munzii Munz's cholla	1B.3	Sonoran Desert scrub, (sandy or gravelly). 150 to -600 m.	May	**Moderate**: Suitable habitat occurs within the BSA. The nearest occurrences to the BSA are approximately 6 miles east and 6 miles to the northeast.
Ditaxis claryana Glandular ditaxis	2B.2	In sandy wash, in creosote bush scrub. Mojavean desert scrub, Sonoran Desert scrub. <100 m.	Oct, Dec, Jan, Feb, Mar	**Low**: Suitable habitat occurs in the BSA; however, the most recent recorded occurrence dates from 1978 and the nearest occurrence to the BSA is approximately 6 miles southeast.
Koeberlinia spinosa var. tenuispina Slender-spined all thorn	2B.2	Riparian woodland, Sonoran Desert scrub. 400 m.	May-Jul	**Low**: Marginally suitable habitat occurs in the BSA; however, the nearest occurrence to the BSA is approximately 8 miles northeast.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Senna covesii Cove's cassia	2B.2	Dry, sandy desert washes and slopes. Sonoran Desert scrub. 330 to -760 m.	Mar-Jun (Aug)	**Low**: Suitable habitat occurs within the BSA; however, the nearest occurrence to the BSA is approximately 9 miles northeast.

Source: Baldwin et al. 2012; CDFW, 2018a; CNPS, 2018.

* Months appearing in parenthesis listed under blooming periods above indicates and additional but uncommon blooming period for that specific species.

Status Codes

California Rare Plant Rank (CRPR) designation

1B	Plants rare, threatened, or endangered in California and elsewhere.
2B	Plants presumed extinct in California but more common elsewhere.
.2	Fairly threatened in California (moderate degree/immediacy of threat).
.3	Not very threatened in California (low degree/immediacy of threats or no current threats known).

5.4 SPECIAL STATUS WILDLIFE

Special-status taxa include those listed as threatened or endangered under the federal or California Endangered Species Acts, taxa proposed for such listing, Species of Special Concern, and other taxa that have been identified by the USFWS, CDFW, or local jurisdictions as unique or rare and which have the potential to occur within the BSA. No special-status wildlife species were either observed within or immediately adjacent to the BSA during the reconnaissance survey conducted in January 2019.

The CNDDB was queried for occurrences of special-status wildlife taxa within the USGS topographical quadrangles in which the BSA occurs and the eight surrounding quadrangles, as discussed above in Section 2.0 (refer to Figures 5A and 5B, included in Appendix A). The specific habitat requirements and the locations of known occurrences of each special- status wildlife taxa were the principal criteria used for inclusion in the list of taxa potentially occurring within the BSA. Table 7 summarizes the special-status wildlife taxa known to regionally occur (within 10 miles) and their potential for occurrence in the BSA; refer to Figures 5A and 5B, included in Appendix A for a graphical depiction of species locations. Each of the taxa identified in the database reviews/searches were assessed for its potential to occur within the BSA based on the following criteria:

- **Present:** Taxa (or sign) were observed in the BSA or in the same watershed (aquatic taxa only) during the most recent surveys, or a population has been acknowledged by CDFW, USFWS, or local experts.
- **High:** Habitat (including soils) for the taxa occurs on site and a known occurrence occurs within the BSA or adjacent areas (within 5 miles of the BSA) within the past 20 years; however, these taxa were not detected during the most recent surveys.
- **Moderate:** Habitat (including soils) for the taxa occurs on site and a known regional record occurs within the database search, but not within 5 miles of the BSA or within the past 20 years; or a known occurrence occurs within 5 miles of the BSA and within the past 20 years and marginal or limited

amounts of habitat occurs on site; or the taxa's range includes the geographic area and suitable habitat exists.

- **Low:** Limited habitat for the taxa occurs on site and no known occurrences were found within the database search and the taxa's range includes the geographic area.
- **Not Likely to Occur:** The environmental conditions associated with taxa presence do not occur within the BSA.

Table 7 Known and Potential Occurrences of Special-Status Wildlife within the BSA

Taxa		Status	Habitat Types	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Amphibians					
Incilius alvarius	Sonoran Desert toad	**SSC**	Inhabits grasslands, arid desert lowlands, mountain canyons with oaks and sycamores, and pinyon-oak-juniper mountain forests. Found near washes, river bottoms, springs, reservoirs, canals, irrigation ditches, stock ponds, streams, temporary pools, and sometimes away from water sources.	Suitable habitat occurs within the East Highline Canal in the extreme southwest corner of the BSA. The nearest recorded occurrence to the BSA is less than 1 mile to the southwest; however, this record is from 1916.	**Moderate (in IID canal only)**
Lithobates yavapaiensis	Lowland leopard frog	**SSC**	Found in streams, river side channels, springs, ponds, stock ponds in desert scrub, grassland, woodland, and pinyon juniper habitats. Has been observed in canals, roadside ditches, and ponds in the Imperial Valley during the first quarter of this century (Storer 1925), but the context of its occurrence in those areas is not well understood because that era was a period of extensive habitat alteration. Lowland leopard frogs may have simply been transitory in those areas.	Suitable habitat occurs within the East Highline Canal in the extreme southwest corner of the BSA. The nearest recorded occurrence to the BSA is approximately 1.5 miles to the southwest; however, this record is from 1940.	**Moderate (in IID canal only)**
Scaphiopus couchii	Couch's spadefoot	**SSC**	Desert and arid regions of grassland, prairie, mesquite, creosote bush, thorn forest, sandy washes. Temporary desert rainpools that last at least 7 days, with water temps >15°C and with subterranean refuge sites close by. An insect food base, especially termites, must be available.	Moderately suitable dispersal habitat occurs within the BSA, but formation of temporary desert pools for breeding and gestation would occur infrequently. The nearest recorded occurrence to the BSA is approximately 3 miles to the west.	**Moderate**
REPTILES					
Gopherus agassizii	Desert tortoise	**FT, ST**,	A desert species that needs firm ground in order to dig burrows, or rocks to shelter among. In California it is found in arid sandy or gravelly locations along riverbanks, washes, sandy dunes, alluvial fans, canyon bottoms, desert oases, rocky hillsides, creosote flats and hillsides.	Marginally suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 4.3 miles to the northeast	**Moderate**

Taxa		Status	Habitat Types	Comments	Occurrence Potential
Scientific Name	**Common Name**				
BIRDS					
Athene cunicularia	burrowing owl	**SSC**	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low- growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is less than a mile to the southwest.	**High**
Charadrius alexandrinus nivosus	western snowy plover	**FT, SSC, BCC**	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	No suitable nesting or foraging habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 4.5 miles to the west.	**Low (as a transient)**
Charadrius montanus	mountain plover	**SSC**	Short grasslands, freshly plowed fields, newly sprouting grain fields, & sometimes sod farms. Short vegetation, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.	No suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 1.4 miles south.	**Moderate (as a transient)**
Empidonax traillii extimus	southwestern willow flycatcher	**FE, SE**	Riparian woodlands in southern California	No suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 2.2 miles northwest.	**Low (as a transient)**
Falco columbarius	merlin	**WL**	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands & deserts, farms & ranches.Clumps of trees or windbreaks are required for roosting in open country.	Suitable foraging habitat occurs within the BSA, but no roosting habitat. The nearest recorded occurrence to the BSA is approximately 2 miles south.	**Moderate (foraging)**
Gelochelidon nilotica	gull-billed tern	**SSC**	Breeds on gravelly or sandy beaches. Winters in salt marshes, estuaries, lagoons and plowed fields, less frequently along rivers, around lakes and in fresh-water marshes.	No suitable permanent aquatic habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 6 miles southwest.	**Low**

Taxa		Status	Habitat Types	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Hydroprogne caspia	Caspian tern	**SA**	Breeds in wide variety of habitats along water, such as salt marshes, barrier islands, dredge spoil islands, freshwater lake islands, and river islands. During migration and winter found along coastlines, large rivers and lakes. Roosts on islands and isolated spits.	No suitable permanent aquatic habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 8 miles southwest.	**Low (as a transient)**
Icteria virens	yellow-breasted chat	**SSC**	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests, in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft. of ground.	No suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 6 miles northwest.	**Low (as a transient)**
Lanius ludovicianus	loggerhead shrike	**SSC**	Loggerhead shrikes inhabit open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. They frequent agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries. Often seen along mowed roadsides with access to fence lines and utility poles.	Suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 7 miles southeast.	**Moderate**
Larus californicus	California gull	**WL**	California gulls primarily breed on sparsely vegetated islands and levees in inland lakes and rivers, but they also breed in salt ponds in the San Francisco Bay. Breeding colonies range from sea level to 9,000 feet elevation and are usually surrounded by water to prevent predators from reaching the nests. During the breeding season they may forage up to 40 miles away from the breeding colony in open areas including farm fields, garbage dumps, meadows, scrublands, yards, orchards, and pastures. They tend to avoid heavily forested areas. In the winter they forage along the Pacific coast, using mudflats, rocky shorelines, beaches, estuaries, and river deltas.	No suitable permanent aquatic habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 10 miles southwest.	**Low (as a transient)**

Taxa		Status	Habitat Types	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Laterallus jamaicensis coturniculus	California black rail	**ST, FP**	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	No suitable permanent aquatic habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 4 miles west.	**Low (as a transient)**
Melanerpes uropygialis	Gila woodpecker	**SE**	Found in deserts that have large cacti or trees suitable for nesting (especially saguaro cactus), dry subtropical forests, riparian woodlands, and residential areas.	No suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 9 miles southwest.	**Low**
Pelecanus occidentalis californicus	California brown pelican	**Delist., FP**	Brown pelicans live year-round in estuaries and coastal marine habitats along both the east and west coasts. They breed between Maryland and Venezuela, and between southern California and southern Ecuador—often wandering farther north after breeding as far as British Columbia or New York. On the Atlantic and Gulf coasts they breed mostly on barrier islands, natural islands in estuaries, and islands made of refuse from dredging, but in Florida and southern Louisiana they primarily use mangrove islets. On the west coast they breed on dry, rocky offshore islands. When not feeding or nesting, they rest on sandbars, pilings, jetties, breakwaters, mangrove islets, and offshore rocks.	No suitable permanent aquatic habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 5 miles west.	**Not expected to occur**
Polioptila melanura	black-tailed gnatcatcher	**WL**	Live year-round in semiarid and desert thorn scrub at elevations up to 7,000 feet, often among creosote bush, salt bush, mesquite, palo verde, ocotillo, and spiny hackberry, as well as cacti such as saguaro, prickly pear, cholla, and barrel cactus. Along the lower Colorado River they may use willows as well as the invasive species tamarisk (salt cedar). They are well adapted to dry habitats and tend to be most common in areas with less than 8 inches of annual rainfall. They often live far away from streams and other bodies of water.	Marginally suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 6 miles southwest.	**Moderate**

Taxa		Status	Habitat Types	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Rallus obsoletus yumanensis	Yuma Ridgway's rail	**FE, ST, FP**	Live in saltmarsh swamps with extensive vegetation, which they use as refuges, especially at high tide. These birds live in low portions of coastal saltmarshes dominated by cordgrass and pickleweed, or in mangroves. The Yuma form of Ridgway's rail lives inland, in the Salton Sea and in freshwater marshes along tributaries of the Colorado River.	No suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 2 miles northwest.	**Low (as a transient)**
Rynchops niger	black simmer	**SSC**	Open sandy beaches, on gravel or shell bars with sparse vegetation, or on mats of sea wrack (tide-stranded debris) in saltmarsh. Occasionally seen at inland lakes such as the Salton Sea of California. Much of this species' original beach habitat has been developed as houses and attractions for beachgoers. Particularly in the southeastern U.S., artificial islands made from dredge spoils are an important nesting habitat for this and other species.	No suitable permanent aquatic habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 6 miles southwest.	**Low (as a transient)**
Setophaga petechia	yellow warbler	**SSC**	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets and in other riparian plants including cottonwoods, sycamores, ash, and alders.	No suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 3 miles southwest.	**Moderate (as a transient)**
Toxostoma crissale	Crissal thrasher	**SSC**	Found in dense, low scrubby vegetation, such as desert and foothill scrub and riparian brush.	Suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 6 miles southwest.	**Moderate**
Toxostoma lecontei	Le Conte's thrasher	**SSC**	Desert scrub, mesquite, tall riparian brush and, locally, chaparral.	Suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 9 miles	**Moderate**

Taxa		Status	Habitat Types	Comments	Taxa
Scientific Name	**Common Name**				
Mammals					
Antrozous pallidus	pallid bat	**SSC**	Desert, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats form high temperatures. Very sensitive to disturbance of roosting sits.	Marginally suitable habitat occurs within the BSA, but no roosting habitat. The nearest recorded occurrence to the BSA is approximately 7 miles northeast.	**Low**
Eumops perotis californicus	western mastiff bat	**SSC**	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Suitable foraging habitat occurs within the BSA, but no roosting habitat. The nearest recorded occurrence to the BSA is approximately 1 mile northeast.	**High (foraging only)**
Macrotus californicus	California leaf-nosed bat	**SSC**	Found in the caves and abandoned mines in Sonoran and Mojavean Desert scrub habitats in the Colorado River Valley in southern California, Nevada, and Arizona. In the winter, they choose roosts that are geothermically heated (Tuttle, 2019). Forages near roosts.	No suitable roosting habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 8 miles northeast.	**Low**
Nyctinomops femorosaccus	pocketed free-tailed bat	**SSC**	Variety of arid areas in southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. rocky areas with high cliffs.	Marginally suitable foraging habitat occurs within the BSA, but no roosting habitat. The nearest recorded occurrence to the BSA is approximately 1 mile northeast.	**High (foraging only)**
Ovis canadensis nelsoni	desert bighorn sheep	**FP**	Throughout North America, bighorn sheep distribution is associated with steep, rugged mountainous terrain. Prefer areas with high visibility and avoid habitat with dense vegetation, such as chaparral, which is found at the higher elevational extent of their habitat in the Peninsular Ranges.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence to the BSA is approximately 8 miles northeast.	**Not likely to occur**

Taxa		Status	Habitat Types	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Sigmodon hispidus eremicus	Yuma hispid cotton rat	**SSC**	Along the Colorado River and in grass and agricultural areas near irrigation waters. Wetlands and uplands with dense grass and herbaceous plants. Makes runways through vegetation. Nests on surface and in burrows.	Very limited marginally suitable habitat occurs in the extreme southwest corner of the BSA. The nearest recorded occurrence to the BSA is approximately 2 miles west.	**Low**
Taxidea taxus	American badger	**SSC**	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Suitable habitat occurs within the BSA. The nearest recorded occurrence to the BSA is approximately 6 miles southwest.	**Moderate**

Federal Rankings:
FE = Federally Endangered
FT = Federally Threatened
FC = Federal Candidate for Listing
BCC = USFWS Bird of Conservation Concern
Delist. = removed from federal listing

State Rankings:
FP = Fully Protected
SE= State Endangered
ST = State Threatened
SA = CDFW Special Animal
WL = CDFW Watch List
SSC = Species of Special Concern
Delist. = removed from state listing

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5.5 WILDLIFE CORRIDORS AND SPECIAL LINKAGES

Linkages and corridors facilitate regional animal movement and are generally centered in or around waterways, riparian corridors, flood control channels, contiguous habitat, and upland habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals.

As the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that some wildlife species do not necessarily restrict their movements to some obvious landscape element, such as a riparian corridor. For example, recent radio-tracking and tagging studies of Coast Range newts, California red-legged frogs, southwestern pond turtles, and two-striped garter snakes found that long-distance dispersal involved radial or perpendicular movements away from a water source with little regard to the orientation of the assumed riparian “movement corridor” (Hunt, 1993; Rathbun et al., 1992; Bulger et al., 2002; Trentham, 2002; Ramirez, 2002, 2003a, 2003b). Likewise, carnivores do not necessarily use riparian corridors as movement corridors, frequently moving overland in a straight line between two points when traversing large distances (Newmark, 1995; Beier, 1993, 1995; Noss, et al., 1996; Noss et al., no date). In general, the following corridor functions can be utilized when evaluating impacts to wildlife movement corridors:

- Movement corridors are physical connections that allow wildlife to move between patches of suitable habitat. Simberloff et al. (1992) and Beier and Loe (1992) correctly state that, for most species, we do not know what corridor traits (length, width, adjacent land use, etc.) are required for a corridor to be useful. But, as Beier and Loe (1992) also note, the critical features of a movement corridor may not be its physical traits but rather how well a particular piece of land fulfills several functions, including allowing dispersal, plant propagation, genetic interchange, and recolonization following local extirpation.
- Dispersal corridors are relatively narrow, linear landscape features embedded in a dissimilar matrix that links two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by rugged terrain, changes in vegetation, or human-altered environments. Corridors of habitat are essential to the local and regional population dynamics of a species because they provide physical links for genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities.
- Habitat linkages are broader connections between two or more habitat areas. This term is commonly used as a synonym for a wildlife corridor (Meffe and Carroll, 1997). Habitat linkages may themselves serve as source areas for food, water, and cover, particularly for small- and medium-size animals.
- Travel routes are usually landscape features, such as ridgelines, drainages, canyons, or riparian corridors within larger natural habitat areas that are used frequently by animals to facilitate movement and provide access to water, food, cover, den sites, or other necessary resources. A travel route is generally preferred by a species because it provides the least amount of topographic resistance in moving from one area to another yet still provides adequate food, water, or cover (Meffe and Carroll, 1997).

- Wildlife crossings are small, narrow areas of limited extent that allow wildlife to bypass an obstacle or barrier. Crossings typically are manmade and include culverts, underpasses, drainage pipes, bridges, and tunnels to provide access past roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent choke points" along a movement corridor because useable habitat is physically constricted at the crossing by human-induced changes to the surrounding areas (Meffe and Carroll, 1997).

5.5.1 Wildlife Movement in the Project Area

The BSA is located at the edge of a vast area of generally undeveloped open space that facilitates unimpeded wildlife movement and provides "live-in habitat" for a variety of species. Due to the lack of significant development to the north, northeast, and west of the BSA, wildlife movement is generally unconstrained throughout that area. Lands to the west, southwest, and south are more developed, generally with agriculture to the west and southwest separating the BSA from the Salton Sea and solar power generating facility to the south. In addition, California State Route 111 runs to the southwest of the BSA and likely serves as some level of barrier to habitat movement. For the most part, these areas contain few structures that would significantly impact wildlife movement.

Within the BSA, the lack of structures or other significant development and the presence of relatively intact habitat and features such as desert washes and unpaved roads all facilitate wildlife passage. However, the BSA does not occur within any known wildlife movement corridor or habitat linkage (Penrod et al, 2001).

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Appendix A FIGURES

Appendix B **FLAT TAILED HORNED LIZARD SURVEY RESULTS**

Appendix C **PHOTOGRAPHIC LOG**

WISTER SOLAR
640 ACRE PROJECT

FLAT-TAILED HORNED LIZARD SURVEY

Prepared for:
ORMAT
6225 Neil Road
Suite 300
Reno, NV 89511

August, 2018

Prepared by:
Barrett's Biological Surveys
Certified as performed in accordance with established biological practices by:

Marie S. Barrett, Biologist
2035 Forrester Road
El Centro, Ca 92243
760.352.4159

CONTENTS

APPENDIX

PROJECT DESCRIPTION

The proposed site is located east of the intersection of Wilkins and Wiest Roads, about 3 miles north of the unincorporated town of Niland. This property is considered “Recreational Open Space” and is located in close proximity to agricultural fields. The zoning is “Open Space/Preservation with Geo-Thermal overlay zone (S2-G). Adjacent to the west are citrus groves; to the north and east is desert and Coachella Canal; desert and agricultural fields are found to the south.

Ormat Technologies, Inc. proposes to construct and operate a 20 MW photovoltaic solar facility on approximately 100 acres within this 640 acre property located in Imperial County, California. The remaining property will remain undeveloped. The solar PV generating facility would consist of 3.2 foot by 6.5 foot PV modules (or panels) on single-axis horizontal trackers in blocks that each hold 2,520 PV panels, with 90 modules in each of 28 rows. The panels would be oriented from east to west for maximum exposure and the foundation would be designed based on soil conditions. The PV modules are made of a poly-crystalline silicon semiconductor material encapsulated in glass. Installation of the PV arrays would include installation of mounting posts, module rail assemblies, PV modules, inverters, transformers and buried electrical conductors. Concrete would be required for the footings, foundations and pads for the transformers and substation work. Tracker foundations would be comprised of either driven or vibrated steel posts/pipes, and/or concrete in some places (depending on soil and underground conditions).

PV modules would be organized into electrical groups referred to as “blocks” capable of producing 844 kW of energy. Every three blocks will be collected to a 2.5 MW inverter and would typically encompass approximately 15 acres including a pad for one transformer and one inverter. The Project would include design elements to reduce the potential glare impacts on adjacent sensitive receptors, e.g. traveling public on nearby county roads, which may include sight obscure proposed fencing.

The electrical output from the PV modules would be low voltage DC power that would be collected and routed to a series of inverters and their associated pad-mounted transformers. Each 2.5 MW array would have (1) one 2500 kW inverter and 2.5 megavolt-ampere (MVA) transformer, which are collectively known as a Power Conversion Station (PCS) [A volt-ampere (VA) is defined as the amount of apparent power in a circuit equal to the product of voltage and current. A MVA is equivalent to 1,000,000 VA]. The inverters would convert the DC power generated by the panels to AC power and the pad mounted transformers step up the voltage to a nominal 12.47 KV voltage level. The 12.47 KV outputs from the transformers are grouped together in PV combining switchgear, which in turn

supplies the geothermal plant auxiliary loads. Existing roads would be utilized and no new access road construction is anticipated.

Construction activities would be sequenced and conducted in a manner that addresses storm water management and soil conservation. During the course of construction, equipment would be placed in service at the completion of each 2500KW power-block. The activation of the power-blocks is turned over to interconnection following the installation of transformer and interconnection equipment upgrades. This in-service timing is critical because PV panels are capable of producing power as soon as they are exposed to sunlight, and because the large number of blocks and the amount of time needed to commission each block requires commissioning to be integrated closely with construction on a block-by- block basis.

Construction of the proposed Project would occur in phases beginning with site preparation and grading and ending with equipment setup and commencement of commercial operations. Generally speaking, construction would consist of three major phases:

(1) Site preparation, which includes clearing grubbing, grading, roads, fences, drainage, and concrete pads;

(2) PV system installation and testing, which includes installation of mounting posts, assembling the structural components, mounting the PV modules, wiring; and

(3) Site clean-up and restoration.

At this time, the exact location of the solar field has not been determined.

FLAT-TAILED HORNED LIZARD DESCRIPTION

The flat-tailed horned lizard (FTHL), *Phrynosoma mcallii,* was first identified in 1852 by U.S. Army Colonel George A. M'Call. There are 14 species of horned lizard; 8 occur in the United States. The FTHL is associated in some overlapping territory with the Desert Horned Lizard (DHL). There are some reports of hybrids found in the Ocotillo, Ca. area.

FTHL has long, thin, sharp horns with a dark line down the middle of the back. There are two rows of fringe scales on each side, base of tail is dorsoventrally flattened. The vent lip does not have black spotting. The back skin is smooth with small spines. The FTHL is a medium-sized horned lizard measuring 2.5 to 4.3 inches in snout to vent length. The two median horns are particularly long and sharp. This is the only species to have a dark vertebral line down the middle of its back. There are also a series of brown spots on either side of the line. This lizard is only found in the lower Colorado River, southwestern Arizona and Baja, California (Sherbrooke, Introduction to Horned Lizards, 2003). The scat, which is

shiny black or mahogany, from the ingestion of ants (the primary diet of FTHL and DHL), is an indication of the presence of either species. The female deposits eggs in an underground nest and covers them with sand.

SURVEY PROTOCOL

Survey protocol is found in *Flat-tailed Horned Lizard Rangewide Management Strategy, 2003 Revision.* Survey protocol was discussed with Magdalena Rodriguez, Senior Environmental Scientist (Specialist), California Department of Fish and Wildlife, Ontario, CA office. It was determined to concentrate on the entire property, not just area development is expected.

Since this site is determined to be in an area of unknown occurrence, surveys must be conducted to determine the presence or absence of FTHLs prior to project initiation. Both live lizard and scat surveys shall be done with the emphasis on live lizard. Surveys shall be conducted from April through September when temperatures are between 75 and 100°F. Surveys should cover at least 10 hours if the project consists of one section (640 acres). An hour will be spent surveying each hectare; a total of 10 hectares will be surveyed.

Flat-tailed horned lizard certified biologists included:

Glenna Barrett
Marie Barrett
Shawna Bishop
Jacob Calanno
Dani Figueroa

Certificates are attached.

SURVEY RESULTS

On August 31, 2018 from 7:00 AM to 10:00 AM, live lizard and scat surveys were conducted on the site.

Table 1 Survey Areas

Area	Time/Weather	Live Lizard	Scat	Results	Comments
1 NW:33°16’18.0”/115°30’1.2” SW:33°16’16.0”/115°30’2.4” NE: 33°16’16.1”/115°29’59.3” SE: 33°16’15.0”/115°29’59.8” Biologist: Glenna Barrett	0820-0920 96°F/clear/2-4 mph	None	None	None seen	Few ants Soil is typically gravelly sand with soft flat sandstones and flagstones

Area	Time/Weather	Live Lizard	Scat	Results	Comments
2. NW:33°16'25.0"/115°29'47.7" SW:33°16'21.8"/115°29'49.0" NE: 33°16'23.9"/115°29'45.0" SE: 33°16'21.7"/115°29'46.4" Biologist: Glenna Barrett	0710-0810 80°F/clear 2-4 mph	None	None	None seen	Few ants Soil is typically gravelly sand with soft flat sandstones and flagstones
3 NW:33°16'1.7"/115°29'51.1" SW:33°15'59.0"/115°29'51.3" NE: 33°16'16.1.3"/115°29'48.0" SE: 33°15'58.6"/115°29'48.3" Biologist: Jacob Calanno	0815-0915 94°F/clear/2-4 mph	None	None	None seen	5 Ant hills with ants observed Soil is typically gravelly sand with soft flat sandstones and flagstones
4 NW:33°15'53.4"/115°29'42.4." SW:33°15'50.6"/115°29'42.9" NE: 33°15'52.5"/115°29'40.2" SE: 33°15'50.8"/115°29'41.0" Biologist: Jacob Calanno	0720-0820 80°F/clear 2-4 mph	None	None	None seen	3 Ant hills with ants observed Soil is typically gravelly sand with soft flat sandstones and flagstones
5 NW:33°16'33.6"/115°30'26.4." SW:33°15'41.3"/115°30'28.2" NE: 33°16'30.4"/115°30'11.0" SE: 33°16'40.4"/115°30'10.6" Biologist: Dani Figueroa	0705-0805 80°F/clear 2-4 mph	None	None	None seen	No ants observed Soil is typically gravelly sand with soft flat sandstones and flagstones
6 NW:33°16'29.6"/115°30'16.4." SW:33°16'27.1"/115°30'5.2" NE: 33°16'17.0"/115°30'4.9"	0815-0915 80°F/clear 2-4 mph	None	None	None seen	No ants observed Soil is

Area	Time/Weather	Live Lizard	Scat	Results	Comments
SE: 33°16’40.4”/115°30’10.6” Biologist: Dani Figueroa					typically gravelly sand with soft flat sandstones and flagstones
7 NW:33°16’14.0”/115°30’23.7.” SW:33°16’11.1”/115°30’23.6” NE: 33°16’14.0”/115°19’19.8” SE: 33°16’11.2”/115°30’19.8” Biologist: Shawna Bishop	0735-0835 80°F/clear 2-4 mph	None	None	None seen	No ants observed Soil is typically gravelly sand with soft flat sandstones and flagstones
8 NW:33°16’6.1”/115°30’28.1.” SW:33°16’3.1”/115°30’28.1” NE: 33°16’6.1”/115°30’25.0” SE: 33°16’3.1”/115°30’25.0” Biologist: Shawna Bishop	0840-0940 94°F/clear 2-4 mph	None	None	None seen	No ants observed Soil is typically gravelly sand with soft flat sandstones and flagstones
9 NW:33°15’57.6”/115°30’30.5.” SW:33°15’55.5”/115°30’30.8” NE: 33°15’57.8”/115°30’27.1” SE: 33°15’55.9”/115°30’27.9” Biologist: Marie Barrett	0730-0830 80°F/clear 2-4 mph	None	None	None seen	One ant hill observed Soil is typically gravelly sand with soft flat sandstones and flagstones
10. NW:33°15’59.1”/115°30’12.4” SW:33°15’57.2”/115°30’13.4” NE: 33°15’58.1”/115°30’10.0” SE: 33°15’56.0”/115°30’10.0” Biologist: Glenna Barrett	0900-1000 88°F/clear 2-4 mph	None	None	None seen	Few ants Soil is typically gravelly sand with soft flat sandstones

Area	Time/Weather	Live Lizard	Scat	Results	Comments
					and flagstones

Permission was not obtained from private property owners who own surrounding property, therefore this survey was conducted exclusively onsite.

No live lizards or scat were found.

INTERPRETATION OF SURVEY RESULTS

Flat-tailed Horned Lizard Rangewide Management Strategy, 2003 Revision criteria state that the species are absent if:

1. No scat or horned lizards are found and

    a. No FTHL have been found within two miles of project site (search of California Natural Diversity Data Base (CNDDB) August, 2018)

Also, the habitat is not continuous (see Location Map). Coachella Canal and agriculture separate the site from more favorable habitat to the north and east.

As a result of this live lizard and scat survey, it has been determined that there are no FTHL on this project site.

References

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Working Group of the Flat-Tailed Horned Lizard Interagency Coordinating Committee, *Flat-tailed Lizard Rangewide Management Strategy,* May, 1997.

APPENDIX A
PHOTOGRAPHS

PHOTOGRAPHS

Plot 1

1. Northwest corner facing north; gravely and with sandstone and creosote

2. Northwest corner facing south; gravelly sand with creosote and sandstone

Plot 2

3. Northwest corner facing south; gravelly sand with creosote

4. Northwest corner facing west; gravelly sand with disturbed soil

Plot 3

5. Southeast corner of hectare plot; gravelly sand

6. Northeast corner of hectare plot

Plot 4

7. Southeast corner of hectare plot

8. Center of hectare plot looking east; abandoned bowling ball

Plot 5

9. From northwest corner of hectare plot looking to center; gravelly sand, sandstone and creosote in background

10. Southwest corner of hectare plot looking east

Plot 6

11. Burro bush and gravelly sand; center of hectare plot

12. Southwest corner of hectare plot looking east; gravelly sand substrate

15. Southeast corner of hectare plot looking south; acacia in background; gravelly sand

16. Southwest corner of hectare plot looking northeast; gravelly sand substrate with sandstone and acacia in background

17. Looking northwest from southeast corner of hectare plot; gravelly sand substrate with sandstone and creosote in background

18. Looking northeast from southwest corner of hectare plot; gravelly sand substrate with sandstone and creosote in background

19. Looking northeast from southwest corner of hectare plot; gravelly sand substrate with sandstone and acacia trees in background

20. Looking south from center of hectare plot; gravelly sand substrate with creosote and acacia trees in background

Plot 10

21. Northwest corner of hectare plot looking south; creosote and gravelly sand substrate

22. Southwest corner of hectare plot facing northeast; acacia, creosote and gravelly sand substrate

APPENDIX B
SPECIES FOUND ON SITE

ANIMALS/INVERTEBRATES OBSERVED ON OR NEAR SITE	
Common name	***Scientific name***
Birds	
Loggerhead Shrike	*Lanius ludovicianus*
Mourning Dove	*Zenaida macroura*
White throated swift	*Aeronautes saxatalis*
Mammals	
Canine tracks/scat	*various*
Cottontail	*Sylvilagus audubonii*
Insects	
Alfalfa butterfly	*Colias eurytheme*
Ants (red harvester)	*various*
Bees	*Aphis sp.*
Damsel/dragonflies	*various*
Desert termite	*Gnathamitermes tubiformans*
Grasshopper	*various*
Reptiles	
Sidewinder (tracks)	*Crotalus cerastes*

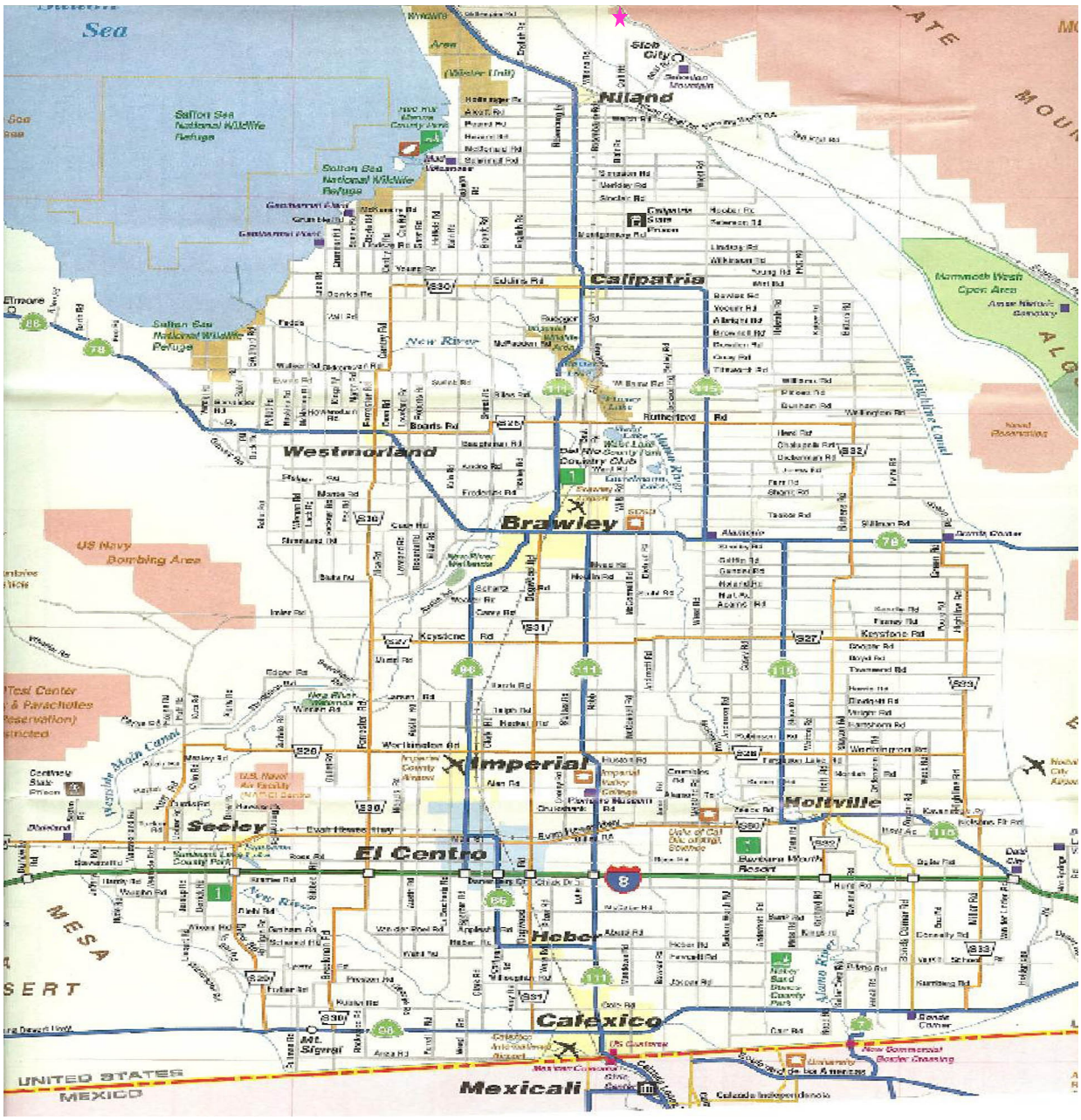
BOTANICAL SPECIES OBSERVED ON OR NEAR SITE		
Common name	**Scientific name**	**Cal-IPC Inventory listing***
Burroweed	*Ambrosia dumosa*	None
California Fagonia	*Fagonia laevis*	None
Cats claw	*Acacia greggii*	None
Acacia	*Acacia spp.ne*	None
Creosote	*Larrea tridentata*	None
Mesquite	*Prosopis sp.*	None
Salt Bush	*Atriplex sp.*	None
Saltcedar	*Tamarix sp.*	Invasive/High

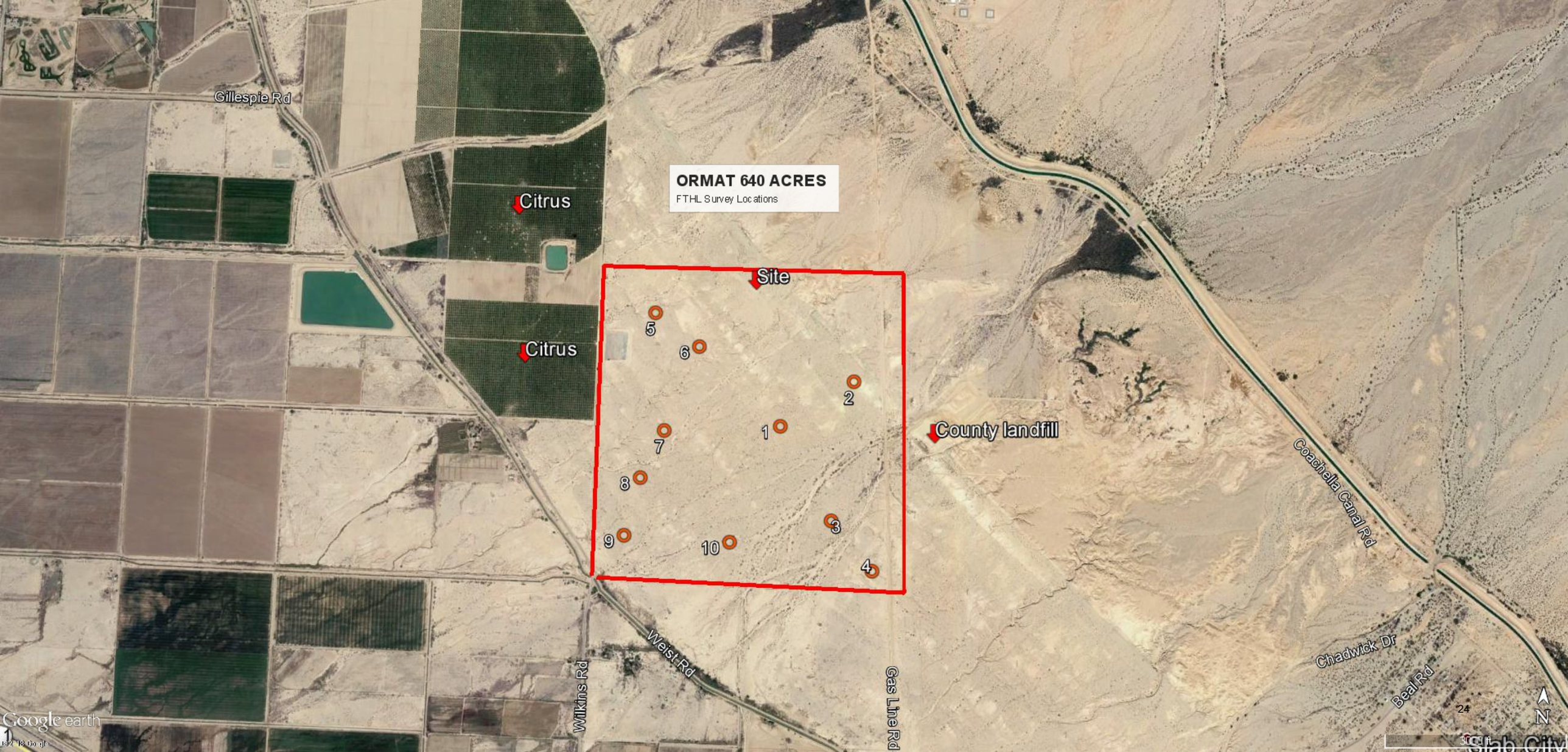
*http://www.cal-ipc.org/plants/inventory/#inventory

APPENDIX C
MAPS

PROJECT STATEWIDE LOCATION

PROJECT REGIONAL LOCATION




ORMAT 640 ACRES
FTHL Survey Locations
Site
Citrus
Citrus
County landfill
Gillespie Rd
Weist Rd
Wilkins Rd
Gas Line Rd
Coachella Canal Rd
Chadwick Dr
Beal Rd
1
2
3
4
5
6
7
8
9
10
Google earth
N

APPENDIX D
QUALIFICATIONS

State of California – The Resources Agency ARNOLD SCHWARZENEGGER, Governor
DEPARTMENT OF FISH AND GAME
78078 Country Club Dr., Ste. 109
Bermuda Dunes, CA 92203
(760) 200-9158
http://www.dfg.ca.gov

June 13, 2008

To whom it may concern,

Title 14 of the California Code of Regulations authorizes the Department of Fish and Game (the Department) to regulate the take and possession of wildlife in the State of California.

This letter provides proof of authorization by the Department for the individual named below to take, possess, and transport Flat-tailed Horned Lizards (*Phrynosoma mcallii*), while performing the duties of biological monitor, as part of mitigation requirements for construction or other activities which place individual lizards at risk. This person is also authorized to take and possess lizards briefly for data collection, during surveys conducted for public agencies. He/she has completed Department-approved training in tracking and finding Flat-tailed Horned Lizards.

This authorization does not permit activities, such as the trapping or marking of lizards, which otherwise require the possession of a current Scientific Collecting Permit issued by the Department.

This authorization is in effect permanently, unless revoked, at the Department's discretion.

Sincerely,

Craig J. Weightman
Senior Environmental Scientist (Acting)
Inland Deserts Region

Authorized Individual

Marie Barrett
Barrett Biological Surveys
2035 Forrester Road
El Centro, CA 92243

Conserving California's Wildlife Since 1870