

Application
for a
Certificate of Environmental Compatibility
Orchard Solar 230 kV Transmission Line Project

Prepared for:
State of Arizona Power Plant and Transmission Line Siting Committee

Submitted by:
YUMA bn, LLC

December 2022

Case No: _____

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CHAPTER 1. INTRODUCTION

Pursuant to Arizona Revised Statutes (ARS) 40-360 et seq., YUMA bn, LLC (Yuma bn) (Applicant), an affiliate of BrightNight Power (BrightNight), is seeking a Certificate of Environmental Compatibility (CEC) granting authority to construct the Orchard Solar 230 kilovolt (kV) Transmission Line Project (Project). The Project is a proposed aboveground 230 kV alternating current transmission line and associated substation facilities planned for construction in unincorporated Yuma County, the City of Yuma, and the Barry M. Goldwater Range (BMGR) (a military training range operated by the United States Air Force (USAF) and United States Marine Corps (USMC), all in the state of Arizona. The Project would connect a renewable energy development that consists of a solar energy generating facility of up to 300 megawatts (MW) (the Orchard Solar Facility) and a green hydrogen production and liquefaction facility to the regional electrical transmission grid through the existing Arizona Public Service Company (APS) Orchard Substation. The Orchard Solar Facility does not involve thermal generation of electricity.

YUMA bn is a wholly owned subsidiary of BNC DevCo, LLC, a joint venture between BrightNight, LLC (BrightNight or BrightNight Power) and Cordelio Power LP. BrightNight is a privately held independent power producer that develops, owns, and manages renewable power facilities; BrightNight's management team has prior experience developing over 10,000 megawatts (MW) of generating capacity and grid-scale energy systems. Cordelio is a renewable power producer that manages an operating portfolio of more than 1,200 MW of renewable power assets in Canada and the United States. Cordelio also oversees a growth pipeline of more than 18,000 MW of wind, solar, and storage projects spread across the United States.

The Project was included in BrightNight Power's Ten-Year Transmission System Plan filed with the Arizona Corporation Commission on March 21, 2022. Project construction is anticipated to begin as early as 2023, with an expected in-service date as early as Q4 2024.

1.1 PROJECT OVERVIEW

The Project includes the following facilities:

- **Generation Intertie (Gen-Tie):** The portion of the transmission line from the new Project Substation to the existing APS Orchard Substation on East County 14th Street, approximately 9.4 miles in length.
- **Facility Siting Area:** A rectangular area extending approximately 2,600 feet east from South Avenue 1E and approximately 1,250 feet south from East County 19th Street. The Facility Siting Area would host electrical infrastructure necessary to support the green hydrogen plant including the following facilities:
 - **Project Substation:** A new substation located south of East County 19th Street to: (1) step up power from the Orchard Solar Facility to transmission voltage, (2) convey 230 kV power to the green hydrogen plant, and (3) terminus point of the Gen-Tie.
 - **Behind the Meter (BTM) Service Line:** The portion of the transmission line from the new Project Substation to the hydrogen production and liquefaction facility. The Orchard Solar Facility would be directly connected to the green hydrogen facility through the Project Substation and would serve as a primary power source for producing hydrogen.
 - **BTM Electrolyzer Substations (BTM Substations):** The hydrogen production and liquefaction facility will include up to eight electrolyzers, each of which includes a 230 kV to 34.5 kV transformer (located downstream from the Project Substation) to step down power from transmission voltage to serve the green hydrogen facility.

The Project Substation, BTM Service Line, and BTM Substations would all be located within the Facility Siting Area, shown on Figure 1, below. The Applicant requests two CECs to address the potential for separate ownership of portion of the Project. CEC-1 will cover the Facility Siting Area (i.e., the Project Substation, the BTM Service Line, and the BTM Substations). CEC-2 will cover the Gen-Tie.

The Gen-Tie would draw power from the grid when load for the green hydrogen plant exceeds output from the Orchard Solar Facility and export power to the grid when solar output exceeds the hydrogen plant load. The Applicant notes that it may refine minor design characteristics for the Project during its final engineering phase. The current site plan (as of December 2022) and representative structure diagrams are presented in Exhibit G.

1.1.1 Project Substation

The Project Substation would be in Facility Siting Area, likely on the same parcel where the green hydrogen plant is planned for construction (i.e., assessor parcel number 212-22-003). The Project Substation is expected to occupy approximately 20 acres. The Project Substation would include a control house, 34.5 kV switchgear for the solar facility, a step-up power transformer to increase the voltage to 230 kV, and an A-frame dead end structure.

1.1.2 Proposed Route

The proposed route is described below and shown on Figure 1:

- The BTM Service Line is planned to run east/west across privately held land south of East County 19th Street for approximately 0.5 miles connecting to the Project Substation, all within the Facility Siting Area.
- The Gen-Tie would originate at the Project Substation, located on privately owned land on the south side of East County 19th Street approximately 0.5 mile east of South Avenue 1E. From the Project Substation, the Gen-Tie would proceed north to East County 19th Street.
- From that point, the Gen-Tie would turn east and proceed across Arizona State Trust land for approximately 2.6 miles to State Route (SR) 195.
- Before reaching SR 195, the Gen-Tie would turn north and proceed across State Trust land, parallel to an existing Western Area Power Administration (WAPA)-owned 69 kV transmission line, for approximately 0.5 mile before turning east for approximately 240 feet and entering the Barry M. Goldwater Range (BMGR).
- Once on the BMGR, the Gen-Tie would proceed north, again parallel to the 69 kV WAPA line, for approximately 1.5 miles before turning east.
- Remaining on the BMGR, the Gen-Tie would turn east and proceed for approximately 0.5 mile.
- Remaining on the BMGR, the Gen-Tie would then turn north and proceed for approximately 1 mile, proceeding parallel to the 69 kV WAPA line, to a point south of East County 16th Street, where it would turn east for approximately 0.5 mile proceeding south of and parallel to East County 16th Street.
- For the final stretch along the BMGR, the Gen-Tie would turn north and proceed for approximately 1 mile to a point near of East County 15th Street; from that point, the Gen-Tie would proceed northeast for approximately 1.2 miles, where it would exit the BMGR, cross over East County 14th Street, and enter the existing Orchard Substation.

To provide flexibility in the placement of specific transmission infrastructure, YUMA bn is requesting authorization to install the Project within a right-of-way of up to 120 feet wide, and to locate the Project Substation, BTM Service Line, and BTM Substations anywhere within the Facility Siting Area identified on Figure 1. The right-of-way and Facility Siting Area would be contained in the requested CEC corridor, which ranges ranging from 500 feet to approximately 7,700 feet wide. Depending on site specific engineering requirements, portions of the route may be constructed underground. The proposed Project route and Facility Siting Area and requested CEC corridor are illustrated on Figure 1 and described in detail in Section 4 of the application.

1.2 PURPOSE AND NEED

As previously noted, the 230 kV transmission facilities proposed in this application are part of a larger renewable energy development that includes the Orchard Solar Facility and a green hydrogen plant. The Project is needed to connect both the Orchard Solar Facility and the green hydrogen plant to the regional electric grid.

The green hydrogen plant would produce liquid hydrogen, a clean energy product with valuable uses in a variety of transportation and industrial applications. Liquid hydrogen is produced by separating hydrogen from water using a process called electrolysis, then cooling the resulting gas to a liquid. Producing liquid hydrogen is energy intensive and most economical when using a low-cost electricity source (e.g., energy generated from a solar facility). When renewable electricity is the main power source for electrolysis and liquefaction, the resulting product may be referred to as “green hydrogen.” The use of green hydrogen as a fuel can reduce or offset the need for traditional petroleum-based fuels and help reduce air emissions, particularly from heavy-duty trucking applications. The Orchard Solar Facility would serve as a low-cost, safe, and renewable source of electricity for the adjoining green hydrogen plant.

Considered together, the Project, solar facility, and green hydrogen plant are expected to deliver substantial economic benefits to Yuma County and the surrounding area. To help quantify the combined economic benefit of these interrelated projects, BrightNight commissioned the Greater Yuma Economic Development Corporation to complete a comprehensive economic impact analysis, which identified the following benefits:¹

- Over 60 full-time, high-paying permanent jobs in the energy industry
- Over \$50 million paid to the Arizona State Land Department (ASLD) educational trust through the Project’s state-land solar lease agreement, benefiting Arizona’s K-12 schools and children
- \$60 million in tax revenue
- **\$1.3 billion in total economic uplift**²

¹ If the Project and the Orchard Solar Facility move forward independently from the green hydrogen plant, the benefits would adjust accordingly.

² Includes jobs, payroll, output, and tax revenues of companies, as well as secondary benefits at other local business. Values include only those impacts generated from 2024 through 2048. Additional benefits would be generated in future years. Figures provided by the Greater Yuma Economic Development Corporation.

1.3 ENVIRONMENTAL AND PUBLIC SITING PROCESS

1.3.1 Environmental, Community, and Existing Infrastructure Considerations

The initial siting process focused on evaluating potential transmission routes between the Project Substation, which must be co-located with the Orchard Solar Facility and the green hydrogen plant, and the Orchard Substation. In considering different options, a priority was placed on minimizing environmental and community impacts. Often this can be achieved by selecting a direct route. Whenever possible, preference was given to potential routes that parallel existing transmission infrastructure, as co-locating transmission facilities has long been a best practice in the industry. Another consideration is land use. With the proposed route, the first third of the Project would predominately traverse State Trust land (mainly under cultivation), with the balance located on the BMGR. Where the Project would cross State Trust land, it would not interfere with current agricultural operations and is a compatible use.

The BMGR land west of SR 195 is of limited use for military training exercises given its proximity to civilian infrastructure; rather, the predominately vacant land serves as a buffer between residential developments to the west and the contiguous portions of the BMGR east of SR 195. Where the Project would traverse BMGR, it would not interfere with military training activities and is a compatible use. Another feature of the route on the BMGR is that the Project would run parallel to an existing WAPA-owned 69 kV transmission line for approximately 6.2 miles. Considered comprehensively, the proposed Project minimizes community and environmental impacts through use of a direct route, is appropriate for the underlying land uses, and parallels existing transmission infrastructure.

1.3.2 Public Outreach Process

The Applicant has coordinated extensively with stakeholders including federal, state, and local agencies and municipalities, as well as the public, to provide information regarding the Project and opportunities for comment. In general, there has been widespread support for the Project, with some limited expression of concern that is typical for a development of this scope and size.

Please refer to Exhibit J of this Application for detailed information about the public outreach campaign and feedback.

1.3.3 Summary of Environmental Compatibility

After conducting an environmental assessment and minimizing or avoiding environmental impacts, based on the factors outlined in ARS 40-360.06, the Applicant respectfully submits the Project is environmentally compatible.

Additionally, as discussed in further sections, the Project would

- be sited adjacent to an existing transmission line, thereby consolidating the potential impacts of electrical infrastructure,
- be compatible with existing land use and existing plans in the vicinity of the proposed route,
- not disturb any areas of unique biological wealth and not impact special-status species,
- minimize visual effects through direct routing and paralleling an existing transmission line
- not disturb any known archaeological or historical sites of significance,

- not affect any recreation opportunities in the area, and
- not be anticipated to result in significant impacts associated with noise or signal interference.

1.4 CONCLUSION

This Application includes the environmental analysis and documentation relevant to the Project as specified by the Arizona Administrative Code Rule R14-3-219 and R14-3-200, Exhibit 1. The Applicant is committed to avoiding where possible and minimizing environmental impacts and submits that the Project is environmentally compatible with its surroundings. The Applicant, therefore, respectfully requests that the Power Plant and Transmission Line Siting Committee grant, and the Arizona Corporation Commission approve, CECs for the construction of the Project, which is necessary to interconnect the Orchard Solar Facility and green hydrogen plant to the Orchard Substation and to facilitate operation of the hydrogen plant.

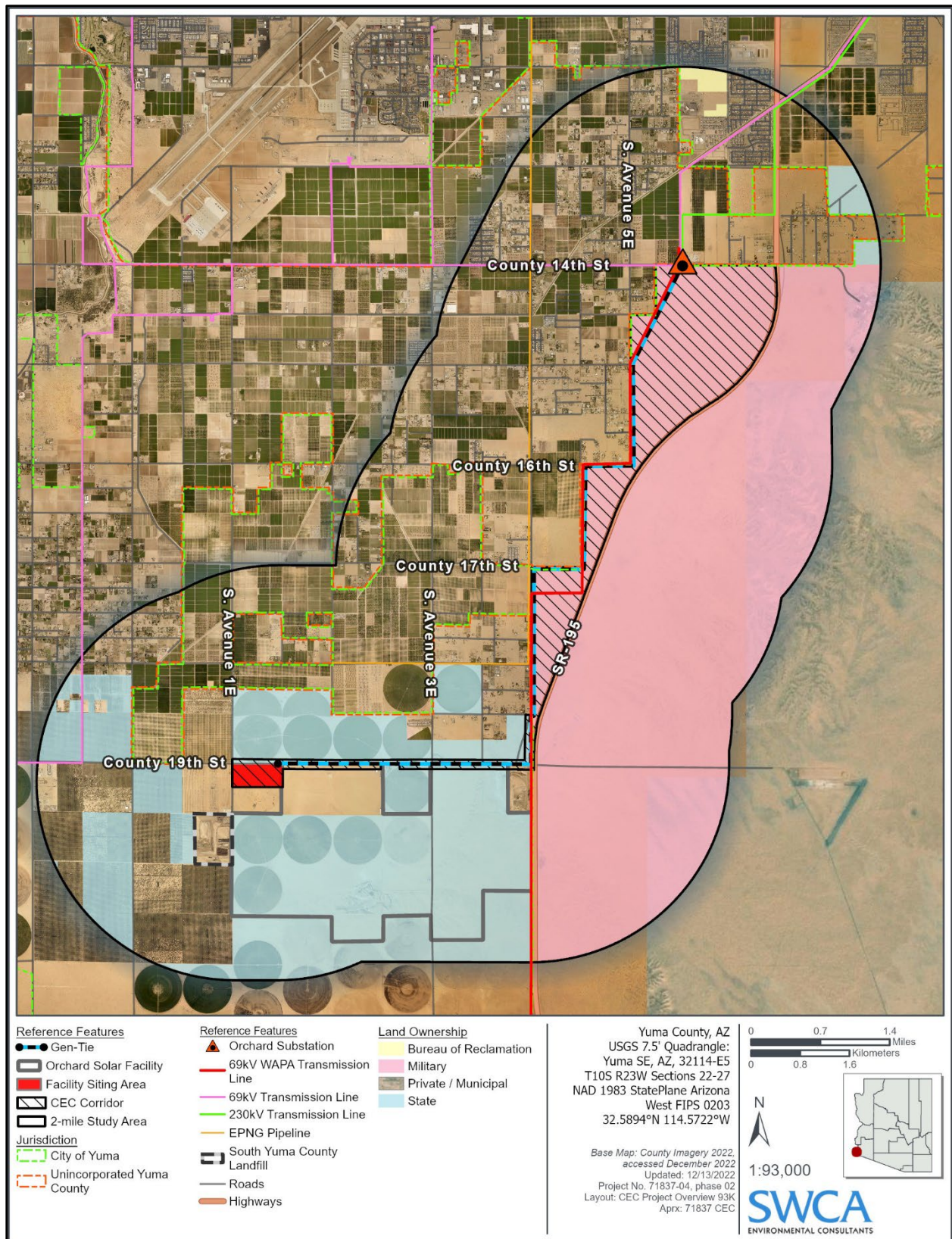


Figure 1. Proposed Project, Facility Siting Area, and requested corridor.

APPLICATION FOR CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

1. Name and address of the Applicant

YUMA bn, LLC
13123 East Emerald Coast Parkway, Suite B#158
Inlet Beach, Florida 32461

2. Name, address, and telephone number of a representative of the applicant who has access to technical knowledge and background information concerning this application, and who will be available to answer questions or furnish additional information

Brandon Pollpeter
Director, Development
BrightNight, LLC
Email: brandon@brightrightpower.com
(417) 331-6866

Date on which the applicant filed a Ten-Year Plan in compliance with ARS § 40-360.02, in which the facilities for which this application is made were described

The Applicant filed a Ten-Year Plan in Docket E-99999A-21-0009 on March 21, 2022.

3. Description of the proposed facility, including:

a. With respect to an electric generating plant:

The Project does not include an electrical generating plant.

b. With respect to a proposed transmission line:

i. Nominal voltage for which the line is designed; description of the proposed structures and switchyards or substations associated therewith; and purpose for constructing said transmission line

(1) Nominal voltage:

The nominal voltage for the Project is 230 kV alternating current, single circuit.

(2) Description of the proposed structures:

The Project would typically use steel monopoles, typically ranging from 80 to 120 feet tall. In specific locations (e.g., crossing above existing infrastructure) the Project would use structures up to approximately 130 feet tall. Certain locations may require the use of overhead to underground transition structure; A-frame dead end structures would be used within each substation. The structures are expected to have a dull gray or weatherized steel finish; conductors would have a non-specular finish to reduce visibility. Variations may be required to achieve site-specific mitigation objectives or meet site-specific engineering requirements. Conceptual drawings of the typical structure types that may be used for the Gen-Tie are included in Exhibit G.

(3) Description of proposed switchyards and substations:

The purpose of the Project Substation is to step up the voltage from solar-facility collector circuits, at 34.5 kV, to the Gen-Tie voltage of 230 kV. The Project Substation also serves the 230 kV BTM Service Line for the hydrogen production

and liquification facility. Both the solar and hydrogen facilities will achieve grid connection via the Project Substation.

The Project Substation would include switching capabilities to route power from the Orchard Solar Facility directly to the hydrogen plant or route electricity to the regional transmission grid via the Gen-Tie. Additionally, the Project Substation could route power from the electrical grid to the hydrogen plant via the BTM Service Line. The Project Substation would include two to three power transformers, 230 kV breakers, 34.5 kV feeder breakers, switches and switchgear, a control house, and a small maintenance shed. The Project Substation may include various distribution level equipment and would be enclosed by an approximately 8- to 10-foot-tall security fence or wall.

(4) Purpose for constructing said transmission line:

The purpose of the Project is to connect the Orchard Solar Facility and green hydrogen plant to the regional electric grid.

ii. Description of geographical points between which the transmission line will run the straight-line distance between such points and the length of the transmission line for each alternative route for which the application is made

(1) Description of geographical points between which the transmission line will run:

The southern terminus would be in Section 22, Township 10 South, Range 23 East, Yuma County, Arizona. Specifically, the southern terminus of the Project would be within the Facility Siting Area (on assessor parcel number 212-22-006), just east of South Avenue 1E.

The northern terminus of the Gen-Tie would be the existing Orchard Substation, located on assessor parcel number 197-20-008, which is in Section 20, Township 09 South Range 22 West, Yuma County, Arizona.

(2) Straight-line distance between such points:

The straight-line distance between the Project Substation and the existing Orchard Substation is approximately 6.6 miles.

(3) Length of the transmission line for each alternative route:

The length of the proposed route is approximately 9.4 miles.

The proposed route follows an existing 69 kV transmission line and other linear features. The Application does not include alternative routes due to the lower-impact nature of the proposed route versus other potential alternatives.

iii. Nominal width of right-of-way required, nominal length of spans, maximum height of supporting structures and minimum height of conductor above ground

(1) Nominal width of right-of-way required:

The Project right-of-way would be up to 120 feet wide within the requested corridor. The location of the Project's alignment within the corridor would be determined according to site-specific design and environmental factors.

The CEC corridor begins at the intersection of East County 19th Street and South Avenue 1E and proceeds east for 1.5 miles; this portion of the corridor is generally

500 feet wide, centered on East County 19th Street. Near the west end of the Project, the CEC corridor encompasses the Facility Siting Area; this portion of the corridor measures approximately 2,600 feet east-to-west and approximately 1,250 feet north-to-south. Starting at the right-of-way for Avenue 2 ½ E and extending approximately 1,000 feet east, the corridor is 250 feet and only occupies land north of East County 19th Street. After that point, the corridor continues east to SR 195 as a 500-foot-wide area centered on East County 19th Street. At SR 195, the corridor turns north and proceeds to a point before East County 18 ½ Street; this portion of the corridor width gradually widens from 500 feet to about 750 feet, with SR 195 serving as the corridor's eastern boundary. North of East County 18 ½ Street, the corridor occupies land on the BMGR, west of SR 195 and south of County 14th Street. Once the corridor is on the BMGR, its width varies from approximately 450 feet to approximately 7,700 feet. The width of the requested corridor provides sufficient flexibility for the Marine Corps Air Station Yuma (MCAS-YUMA), the administrative organization in charge of the BMGR, to provide routing input and to "micro-site" the Project around potentially sensitive resources.

The requested CEC corridor is shown on Figure 1, above.

(2) Nominal length of spans:

The minimum span length between structures is estimated to be approximately 280 feet. Depending on site specific engineering requirements, shorter span lengths may be necessary where the Project may cross existing infrastructure.

(3) Maximum height of supporting structures:

At specific locations structures may be up to approximately 130 feet above ground.

(4) Minimum height of conductor above ground:

The minimum height of the conductor above grade would be 28 feet, as currently designed. All clearances will be accordance with applicable codes and regulations.

iv. To the extent available, the estimated costs of proposed transmission line and route, stated separately. (If application contains alternative routes, furnish an estimate for each route and a brief description of the reasons for any variations in such estimates.)

The estimated cost for the proposed transmission line is approximately \$15 to 20 million.

The estimated cost associated with access to the land required for the proposed transmission line route is approximately \$2.4 million.

v. Description of proposed route and switchyard locations. (If application contains alternative routes, list routes in order of applicant's preference with a summary of reasons for such order of preference and any changes such alternative routes would require in the plans reflected in (i) through (iv) hereof.)

The Project Substation and BTM Substations would be in the Facility Siting Area. The Facility Siting Area encompasses a rectangular area extending approximately 2,600 feet east of South Avenue 1E and approximately 1,250 feet south of East County 19th Street, as shown on Figure 1.

The proposed route for the Project is described in Section 1.1.2 of the Introduction, above, and depicted in Figure 1. The BTM Service Line will be in the Facility Siting

Area. From the Facility Siting Area, the Gen-Tie would proceed east for approximately 2.6 miles, on State Trust land, along East County 19th Street to a point west of SR 195. The Gen-Tie would then proceed north and northeast for approximately 6.3 miles on State Trust land and the BMGR. The Project would interconnect to the regional electric grid at the existing APS Orchard Substation, located on the north side of East County 14th Street, approximately 0.6 mile east of South Avenue 5E. Depending on site specific engineering requirements, portions of the route may be constructed underground.

vi. For each alternative route for which application is made, list the ownership percentages of land traversed by the entire route (federal, state, Indian, private, etc.).

The proposed linear routing for the Project includes.

- Gen-Tie
 - Approximately 3.1 miles (35%) would traverse State Trust land administered by the ASLD.
 - Approximately 5.7 miles (65%) would traverse federal land (i.e., the BMGR) administered by the Department of Navy.
- Facility Siting Area
 - Approximately 75 acres (100%) would occupy private land

4. List the areas of jurisdiction [as defined in A.R.S. § 40-360(1)] affected by each alternative site or route and designate those proposed sites or routes, if any, which are contrary to the zoning ordinances or master plans of any of such areas of jurisdiction.

The Project would be in unincorporated Yuma County, the City of Yuma. In addition, the Project would be on State Trust land, administered by the Arizona State Land Department, and the BMGR, administered by MCAS-YUMA.

The Facility Siting Area (i.e., the Project Substation, BTM Service Line, and BTM Substations) and the segment of the Project along East County 19th Street (and the Orchard Solar Facility) would be in unincorporated Yuma County. The portion of the Project along East County 19th Street and proceeding north prior to entering the BMGR would be on State Trust land administered by the ASLD.

Portions of the Project in unincorporated Yuma County are subject to the requirements of Yuma County’s planning and zoning regulations. Portions of the Project in unincorporated Yuma County would be in the County’s Rural Area-10 Acre Minimum (RA-10) zoning district (Yuma County 2022).³ With respect to the Yuma County Comprehensive Plan; portions of the Project in unincorporated Yuma County have a land use designation of “Agricultural/Rural Preservation” (Yuma County 2012). The Project is not contrary to County’s zoning ordinances or comprehensive plan.

The remainder of the Gen-Tie would be located on the BMGR. The portion of the BMGR that the Gen-Tie would traverse is within the City of Yuma’s municipal boundary. The City of Yuma 2012 General Plan designates the land that the Gen-Tie Line would cross as “public/quasi-public”

³ The Orchard Solar Facility and associated green hydrogen plant are, separately, under review for approval through Yuma County’s Special Use Permit process. Given that these facilities may be permitted without rezoning any land, a Comprehensive Plan amendment is not required.

(City of Yuma 2019); the same area is zoned as Military Reservation (MR).⁴ The Project is not contrary to City’s zoning ordinances or comprehensive plan.

Regarding the BMGR’s jurisdiction, the Project requires a grant of location and easement from the Department of Navy for the portion of the route that would traverse the BMGR. National Environmental Policy Act (NEPA) review for granting the easement is anticipated to proceed under the Department of Navy’s categorical exclusion #35, which excludes the “acquisition, installation, modernization, repair, or operation of utility (including, but not limited to, water, sewer, and electrical) [...] that use existing rights of way, easements, distribution systems, and facilities” from further analysis under NEPA.

5. Describe any environmental studies applicant has performed or caused to be performed in connection with this application or intends to perform or cause to be performed in such connection, including the contemplated date of completion.

The Applicant has evaluated available secondary and field data related to biological resources, visual resources, cultural resources, recreational resources, land use, noise levels, and communications signals to assess the potential impacts that may result from the construction, operation, and maintenance of the Project. These evaluations are included in Exhibits B, C, D, E, F, H, and I to this application.

YUMA bn, LLC

By: /s/ Martin Hermann

Martin Hermann, YUMA bn, LLC
Managing Member

/s/ Ron Kiecana

Ron Kiecana
Chief Development Officer

I HEREBY CERTIFY that on this 15 day of December 2022, I have delivered to the Arizona Corporation Commission twenty-five (25) copies of this Application for a Certificate of Environmental Compatibility.

⁴ The City of Yuma Code of Ordinances states that the MR zoning district was established to recognize the “federal government’s position to control and utilize such land for military purposes in accordance with the supremacy clause of the United States Constitution.” Specifically, section 154-12.01(C) of the Zoning Ordinances defers authority to the federal government for identifying permitted principle uses within the MR zoning district, stating that permitted principle uses are “determined by the federal government and the respective federal entity utilizing such land controlled or owned by the Department of Defense for military purposes.”

Literature Cited

- City of Yuma. 2022. *City of Yuma 2022 General Plan*. Available at: <https://www.yumaaz.gov/home/showpublisheddocument/5172/637939261174930000>. Accessed September 2022.
- Yuma County. 2012. *Yuma County 2020 Comprehensive Plan*. Available at: <https://www.yumacountyaz.gov/government/development-services/laws-guidelines/2020-comprehensive-plan>. Accessed August 2022.
- . 2022. Yuma County GIS Map Viewer. Available at: <https://geo-viewer.yumacountyaz.gov/Html5Viewer/index.html?viewer=YumaCountyPublicApplication>. Accessed August 2022.

EXHIBIT A. LOCATION MAP AND LAND USE MAPS

In accordance with Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1, the applicant provides the following location maps and land use information:

*Where commercially available**, 1) a topographic map, 1:250,000 scale, showing any proposed transmission line route longer than 50 miles and the adjacent area; and 2) a topographic map, a scale of 1:62,500, for routes shorter than 50 miles showing any proposed transmission line route and the adjacent area*

Where commercially available, a topographic map, 1:62,500 scale, of each proposed transmission line route longer than 50 miles showing that portion of the route within two miles of any subdivided area. The general land use plan within the area shall be shown on a 1:62,500 map required for Exhibit A-3, and for the map required by this Exhibit A-4, which shall also show the areas of jurisdiction affected and any boundaries between such areas of jurisdiction. If the general land use plan is uniform throughout the area depicted, it may be described in the legend in lieu of on an overlay.

***If a topographic map is not commercially available, a map of similar scale, which reflects prominent or important physical features of the area in the vicinity of the proposed site or route, shall be substituted.*

Land Use Overview

The following exhibits are required by the Arizona Corporation Commission's Rules of Practice and Procedure R14-3-219, Exhibit 1, to support the land use studies conducted for this application:

- Exhibit A-1 illustrates the land ownership and surface jurisdiction for the location of proposed Project facilities (Project Area) and land within 2 miles of the Project Area (Study Area).
- Exhibit A-2 illustrates existing land use within the Study Area.
- Exhibit A-3 illustrates planned land use for areas within the Study Area.

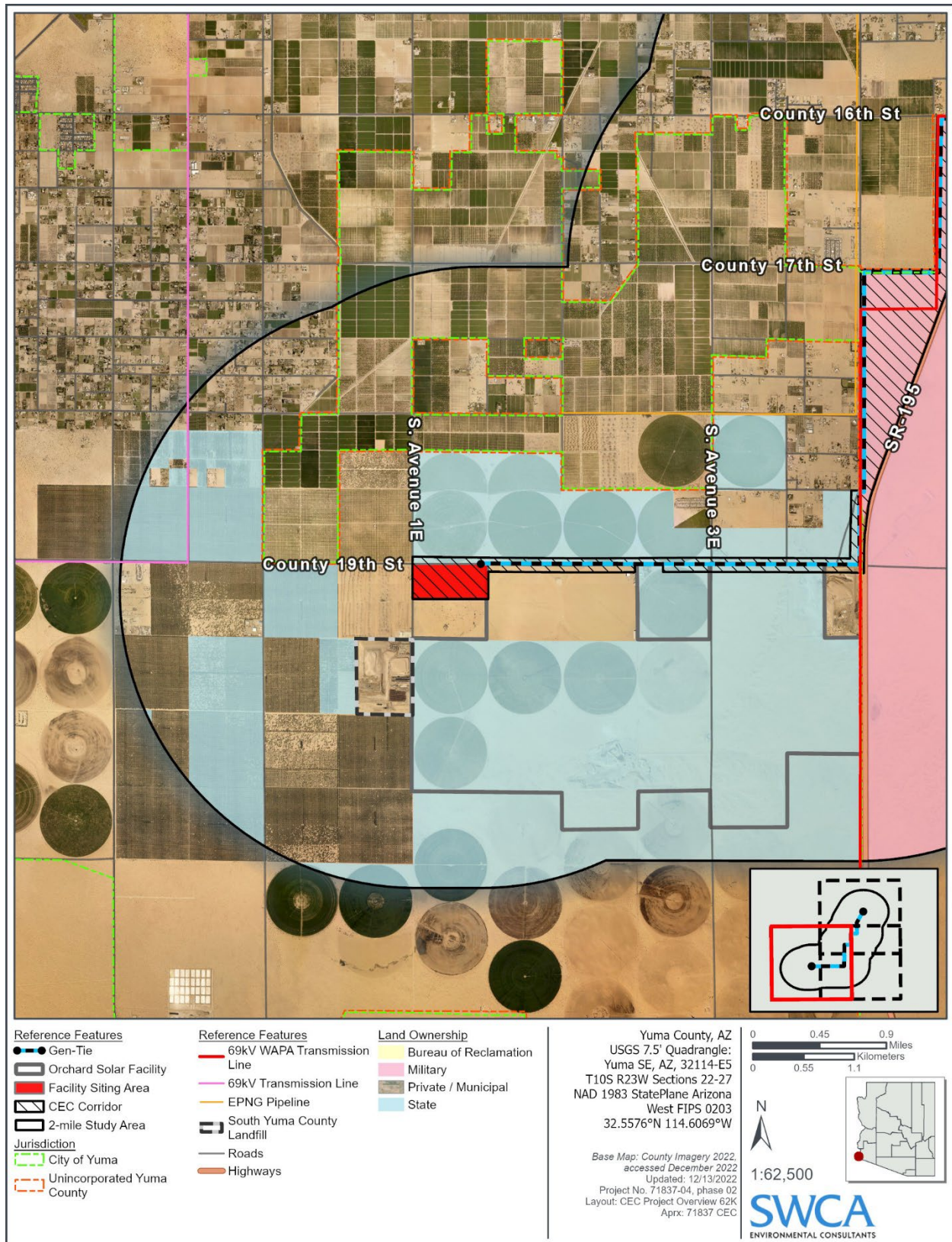


Exhibit A-1a. Land ownership and surface jurisdiction.

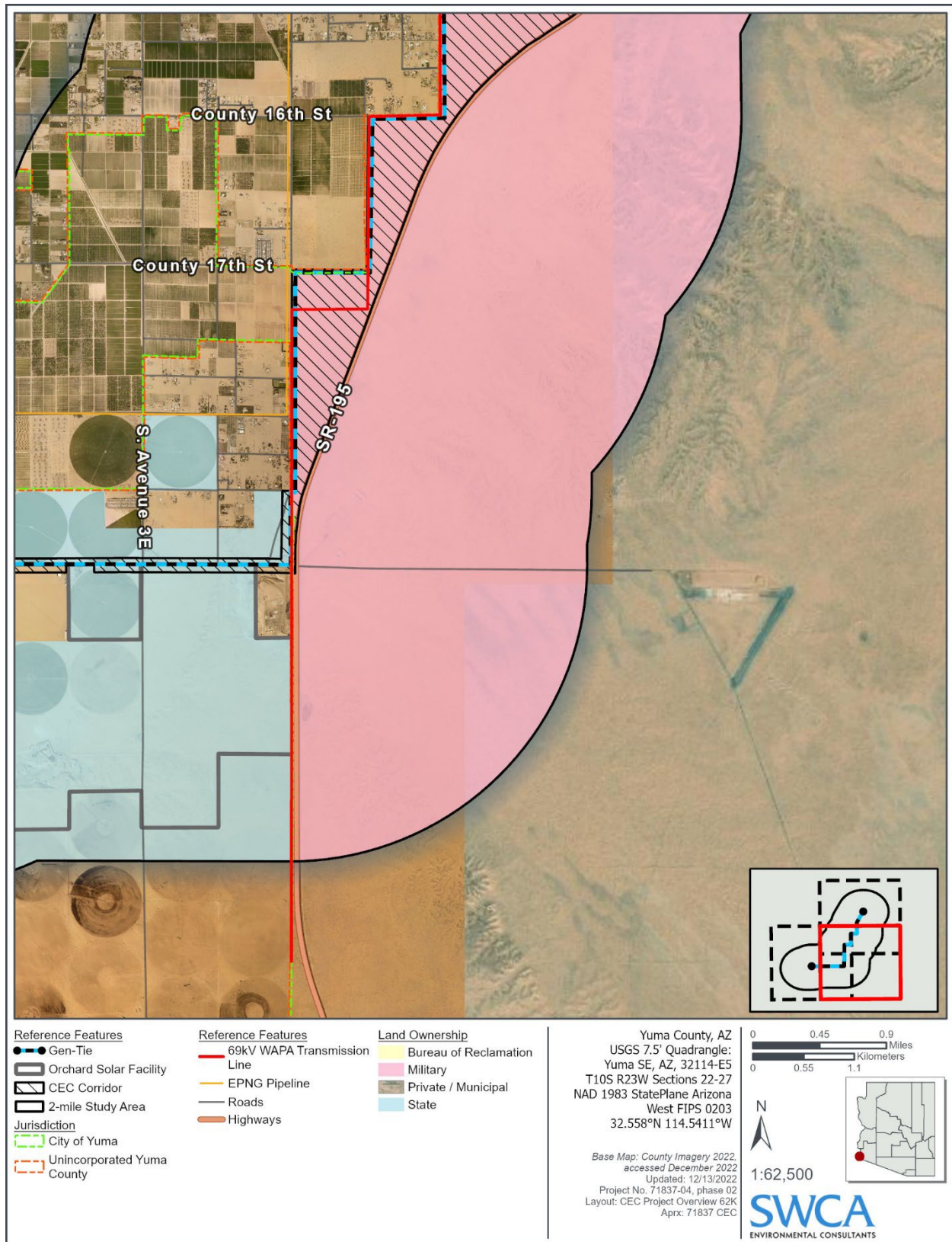


Exhibit A-1b. Land ownership and surface jurisdiction.

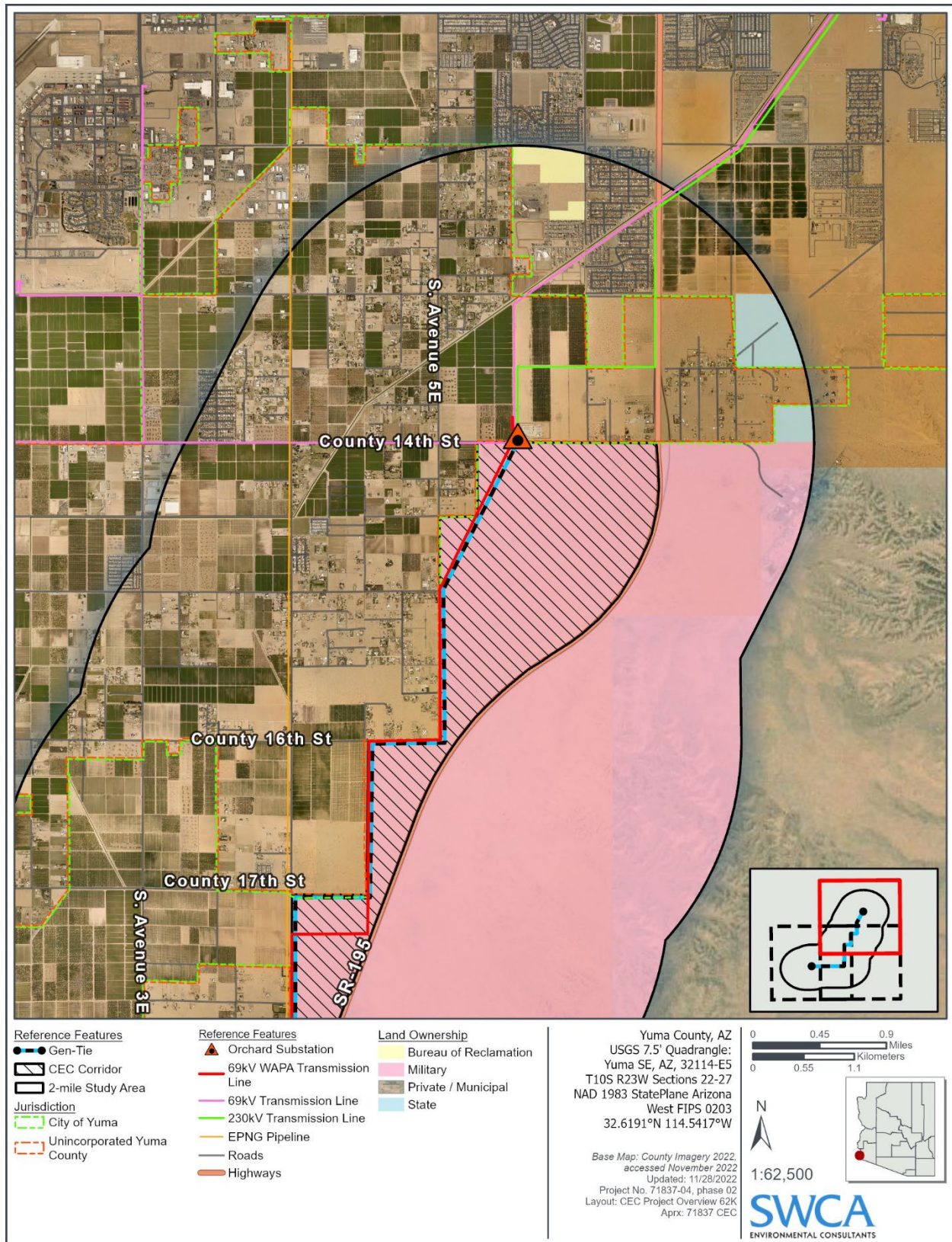


Exhibit A-1c. Land ownership and surface jurisdiction.

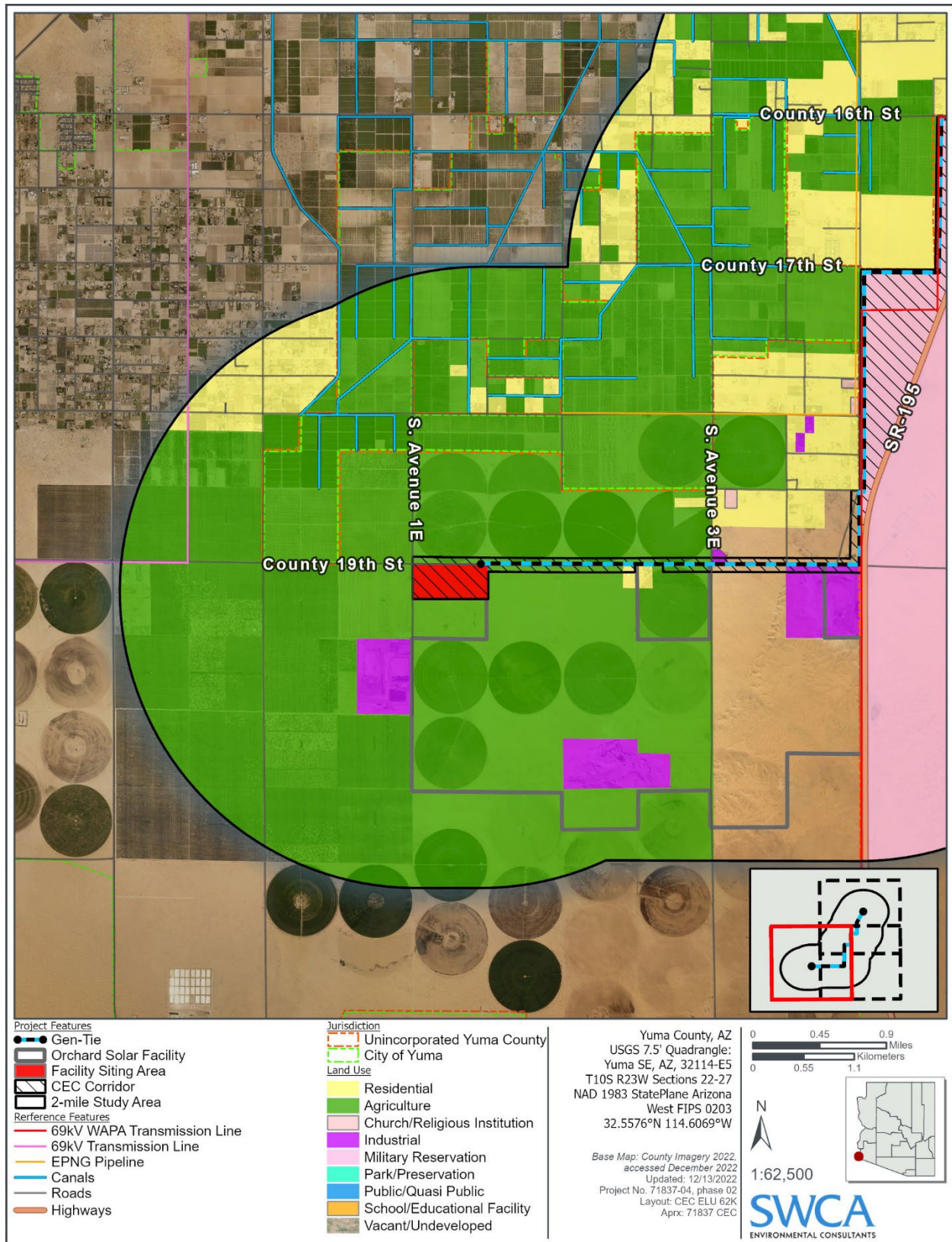


Exhibit A-2a. Existing land use.

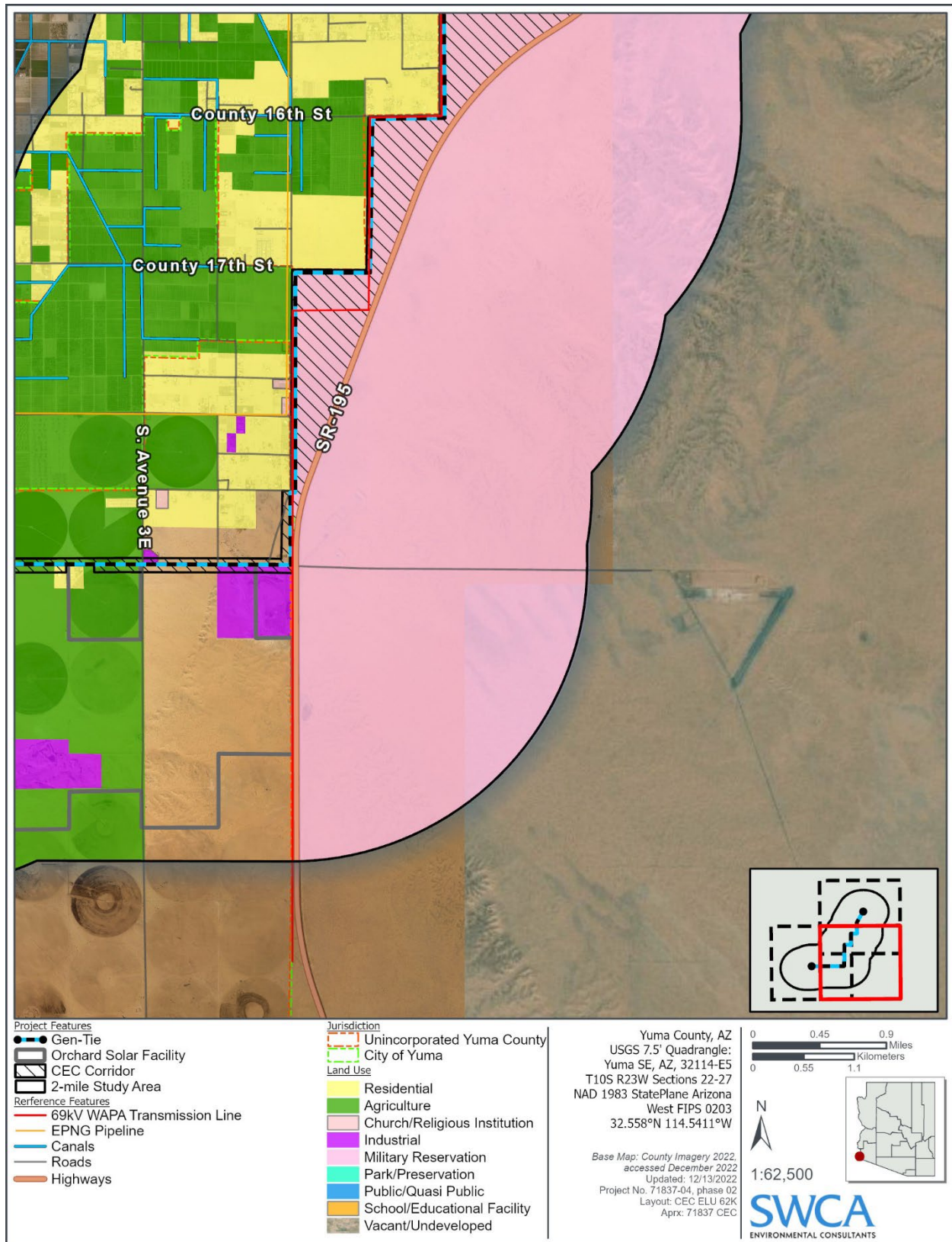


Exhibit A-2b. Existing land use.

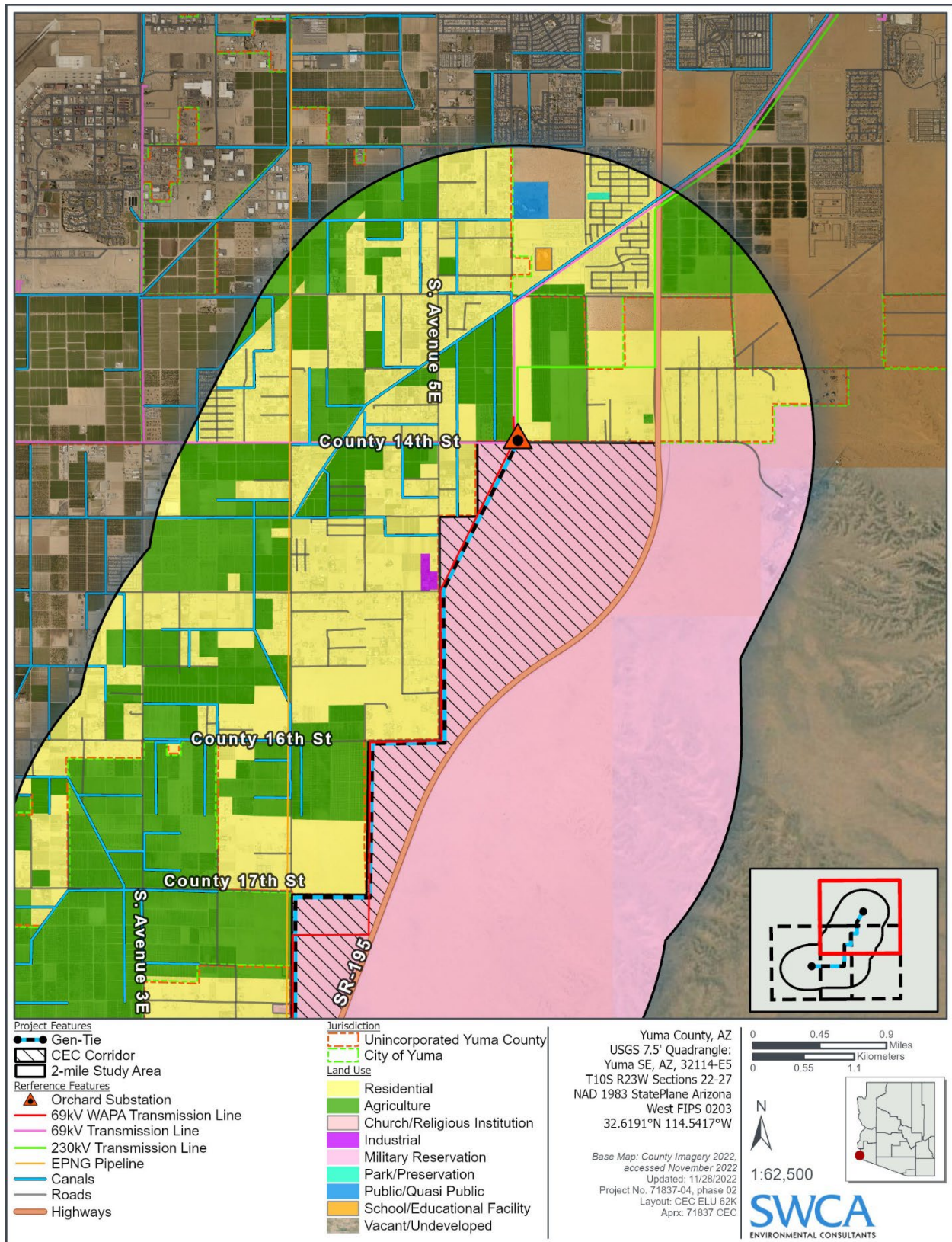


Exhibit A-2c. Existing land use.

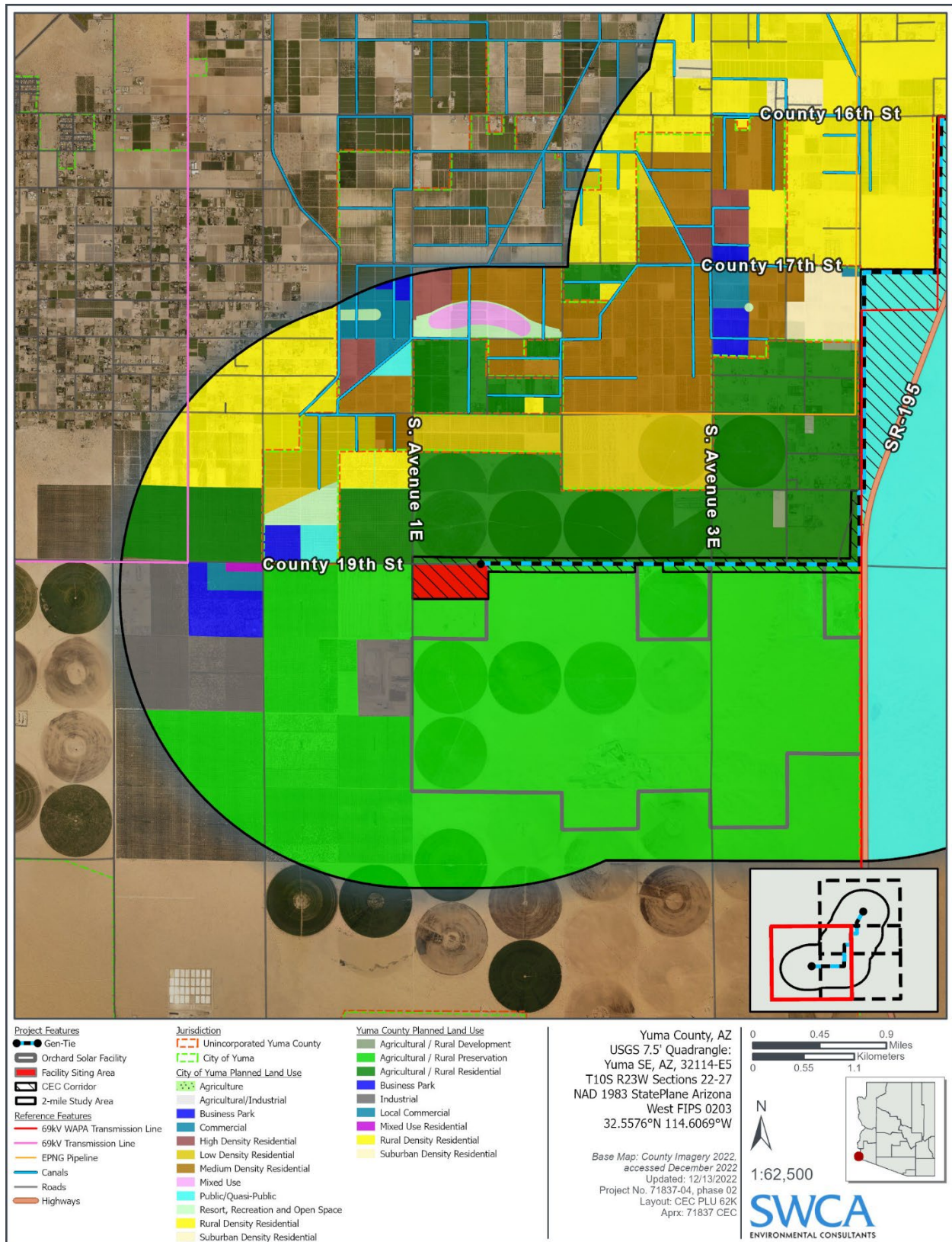


Exhibit A-3a. Planned land use.

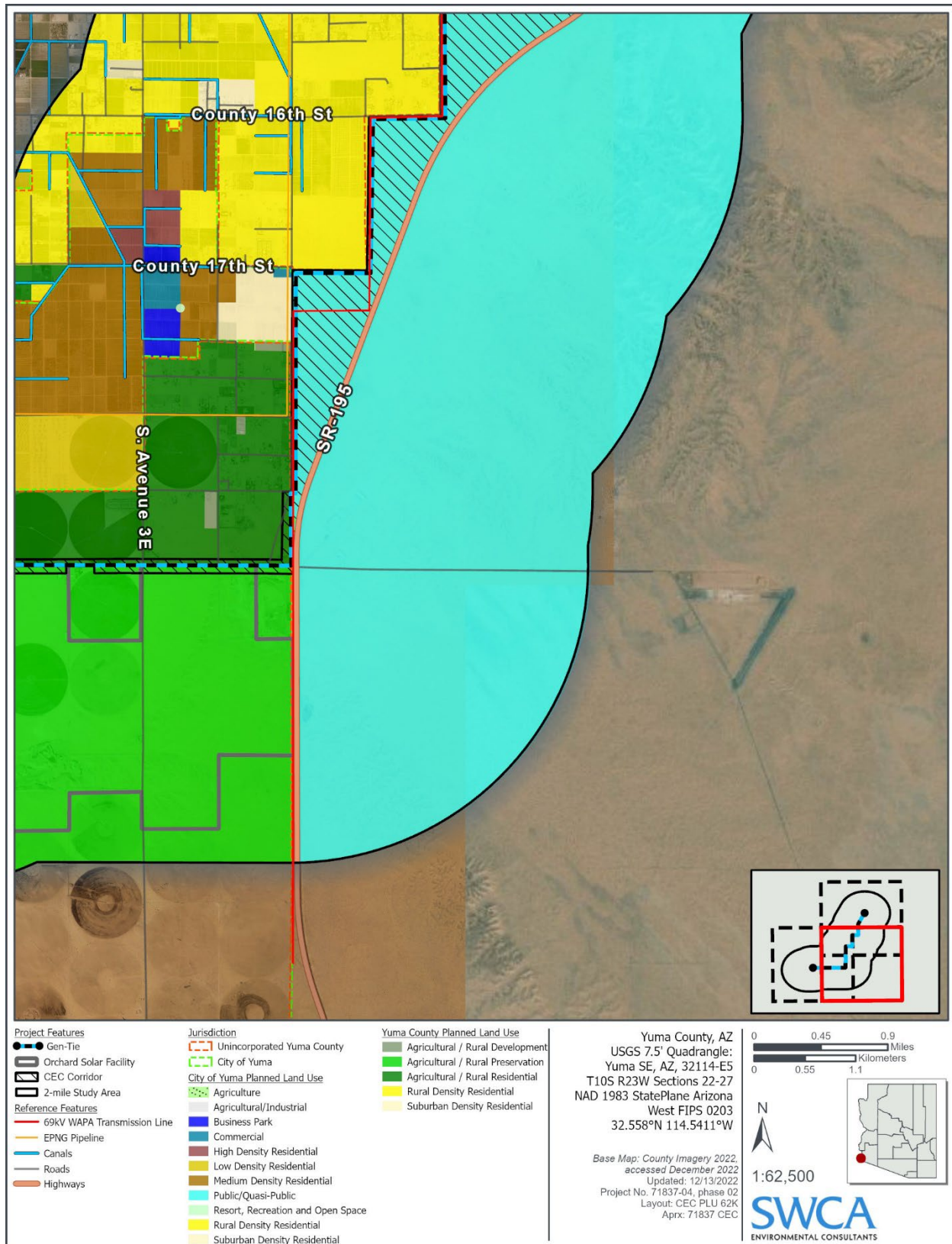


Exhibit A-3b. Planned land use.

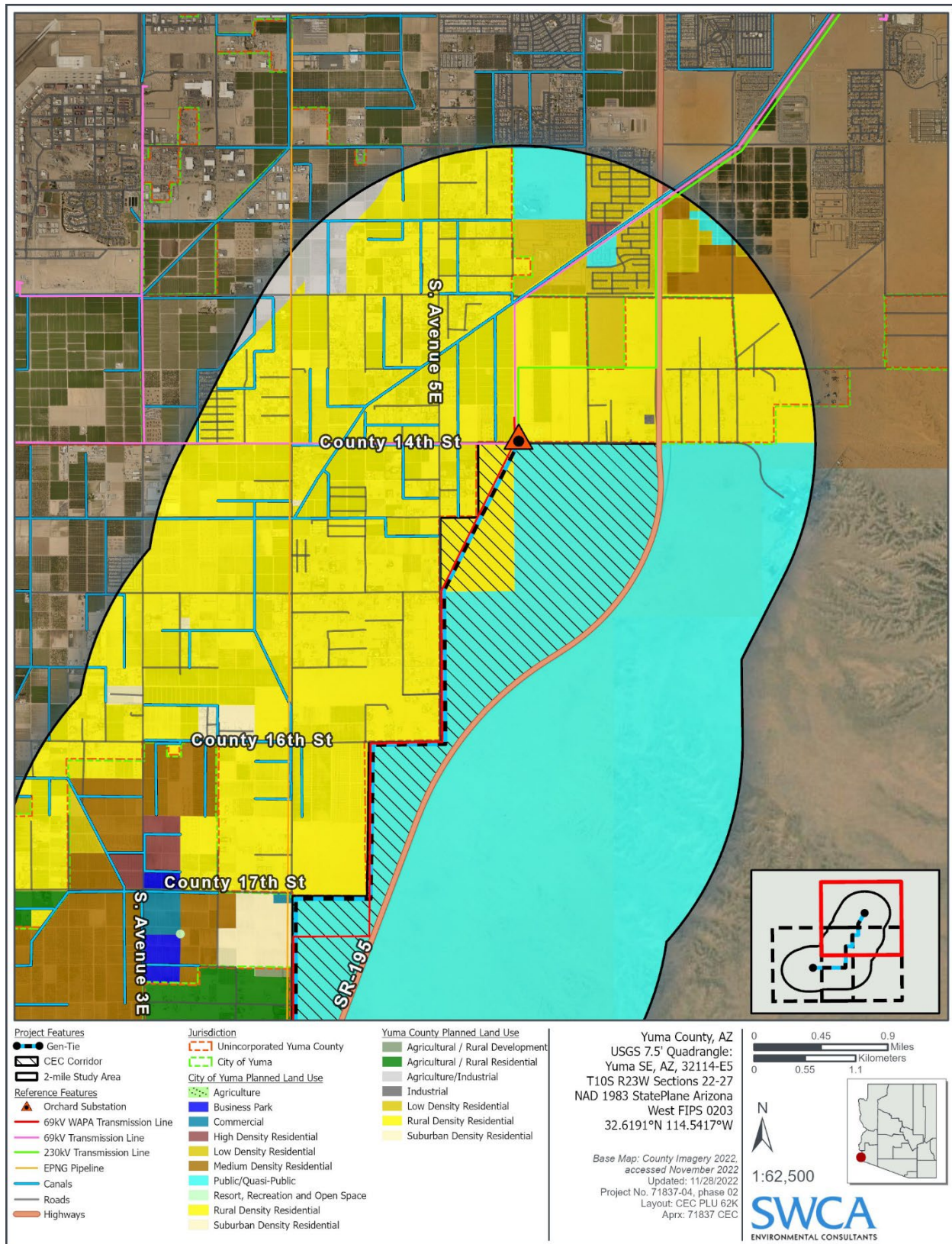


Exhibit A-3c. Planned land use.

EXHIBIT B. ENVIRONMENTAL STUDIES

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

Attach any environmental studies which applicant has made or obtained in connection with the proposed site(s) or route(s). If an environmental report has been prepared for any federal agency or if a federal agency has prepared an environmental statement pursuant to Section 102 of the National Environmental Policy Act, a copy shall be included as a part of this exhibit.

Introduction

The Applicant, YUMA bn, LLC – an affiliate of BrightNight – retained SWCA Environmental Consultants (SWCA) to complete environmental analyses for the Orchard Solar 230 kV Generation Intertie (Gen-Tie) Transmission Line Project and associated substation (Project), which included an evaluation of land use, biological, visual, cultural, and recreational resources within a 2-mile buffer around the Gen-Tie (Study Area). The following sections include an inventory of the existing and planned land uses in the Study Area and an assessment of potential land use impacts resulting from the Project. The biological, visual, cultural, and recreational resource evaluations are discussed in detail in the subsequent Exhibits C, D, E, and F. A discussion of the National Environmental Policy Act (NEPA) review required for the Project is included in this exhibit.

As shown in Exhibit A-1, the Project and Study Area are in Yuma County and City of Yuma. The Project would traverse privately owned land, federal land (a military reservation known as the Barry M. Goldwater Range [BMGR] administered by the United States Navy and USAF⁵), and Arizona State Trust land administered by the ASLD. The area immediately around the Project includes a mixture of predominately rural land uses including residential, agricultural, commercial, and industrial land uses. As noted in the introduction, the Project would parallel an existing, Western Area Power Administration (WAPA)-owned 69 kV transmission line for much of its route and interconnect to the existing Arizona Public Service (APS) Orchard Substation.

Land Use

Inventory

SWCA completed a land-use inventory to identify and map existing and planned land uses within the Study Area. Existing land uses in the Study Area were initially inventoried based on a desktop analysis and subsequently confirmed during a field visit to the Study Area in August 2022. The desktop analysis included a review of available aerial photographs and publicly available databases, including geographic information system (GIS) datasets from Yuma County and the City of Yuma. A figure showing existing

⁵ The Secretary of the Navy and the Secretary of the USAF have jurisdiction over lands and interest in lands within the boundaries of the BMGR under the Military Lands Withdrawal Act of 1999 (Public Law 106-65). Under this law, lands in the BMGR are reserved for use by the Secretary of the Navy for defense-related purposes. The Marine Corps, a component of the Department of the Navy, is the administrator and primary user of BMGR. BMGR is administered by Marine Corps Air Station Yuma, in Yuma, Arizona (U.S. Department of the Air Force and U.S. Marine Corps 2021).

land use in the Study Area is included as Exhibit A-2. Planned land use in the Study Area was compiled from the Yuma County 2020 Comprehensive Plan, the 2022 City of Yuma General Plan, and the Barry M. Goldwater Range Integrated Natural Resources Management Plan (Yuma County 2012, City of Yuma 2022, U.S. Department of the USAF and USMC. 2021). A figure showing planned land uses, compiled from the General Plan and BMGR INRMP, in the Study Area is included as Exhibit A-3.

In October 2022, the Applicant sent letters to the relevant agencies, municipalities, and utilities to provide Project information and request new or additional information on plans or planned developments within the Study Area. Exhibit H provides a copy of the letter, written responses, and other correspondence from relevant jurisdictions.

Jurisdiction and Land Ownership

As noted above, the Project and the 2-mile Study Area overlap with unincorporated areas of Yuma County, the City of Yuma, and the BMGR. Land within the Study Area is military, State Trust, and privately owned (see Exhibit A-1). The Applicant plans to execute easement agreements with the private landowners, the ASLD, and the BMGR to establish a right-of-way for the Gen-Tie.

Existing Land Use

Exhibit A-2 illustrates existing land uses within the Study Area. Existing land use data were gathered through publicly available GIS data review, aerial image review, and on-site field verification. The Study Area is predominately used for agricultural and military purposes, with rural residential areas intermixed with agricultural areas west of the Gen-Tie. Some commercial and industrial uses are scattered through the western portion of the Study Area. Minor land uses in the Study Area include park/preservation, school/educational facilities, vacant/undeveloped, and church/religious institutions.

The Study Area contains a variety of public infrastructure facilities, including overhead 69 kV transmission lines, the APS Orchard Substation, canals, and a state highway (i.e., State Route [SR] 195).

Agricultural – Agricultural land use is found throughout the western portion of the Study Area and is especially concentrated south of County 17th Street. Along 19th Street, the Project would traverse State Trust land (administered by the ASLD), currently used for agricultural production, for approximately 1.5 miles.

Military Reservation – The Study Area includes a portion of the BMGR. The Secretary of the Navy and the Secretary of the USAF have jurisdiction over lands and interest in lands within the boundaries of the BMGR under the Military Lands Withdrawal Act of 1999 (Public Law 106-65). Under this law, lands in the BMGR are reserved for defense-related purposes. The U. S. Marine Corps, a component of the Department of the Navy, is the administrator and primary user of BMGR. BMGR is administered by Marine Corps Air Station Yuma, in Yuma, Arizona (U.S. Department of the Air Force and U.S. Marine Corps 2021). The BMGR west of SR 195 is not actively used for military exercises or training activities. Although not actively in use, this area is still reserved for military purposes and restricted from public access (Colorado State University 2018). The Gen-Tie would traverse this disused portion of the BMGR for approximately 5.7 miles.

Residential – Single-family low- and medium-density residential land use is prevalent throughout the western and northern Study Area. Residential properties are generally located west of the Project, especially between East County 19th Street and E County 17th Street and between East County 16th Street and East County 15th Street.

Industrial – Industrial land uses are prevalent throughout the Study Area. Industrial uses in the vicinity of the Project includes a landfill southwest of proposed Project Substation, and aggregate mining facilities south of the Gen-Tie. Several agriculture-related processing facilities and construction yards were observed in the western portion of the Study Area. The Applicant is aware that, in December 2021, the Yuma County Board of Supervisors issued a Special Use Permit for an organics recycling facility to be located at near the corner of East County 19th Street and South Avenue 1E (Yuma County 2021). In addition, a green hydrogen production facility is under development on a parcel adjacent to the Project Substation.⁶

Educational – One educational facility is present in the Study Area. The closest educational facility is Dorothy Hall Elementary School and is approximately 1.24 miles north of the Gen-Tie.

Public/Quasi-Public – At least one public facility, the Yuma County Public Works facility, located on the corner of East County 12 ½ Street and South Avenue 5 ½ East, is located in the Study Area.

Parks/Preservation – A park is located in the northern section of the Study Area. Ocotillo Park is in a residential neighborhood near South Ave 6 East and East 42nd Place.

Vacant/Undeveloped – Vacant and undeveloped land use is primarily in the northeast and southern portions of the Study Area. Scattered parcels of privately-owned vacant land are also located throughout the Study Area.

Church/Religious Institution – There are two religious institutions in the Study Area, west of the Project but outside of the requested CEC corridor. Iglesia Bautista Betania is near South Avenue 3 East and East County 18 ½ Street. Desert View Church is located near South Avenue 4 East and 17 ¾ Street. Recreation facilities are available at the churches. There is a basketball court at Iglesia Bautista Betania, and a baseball diamond and basketball court at Desert View Church.

Utilities – Existing electrical infrastructure in the Study Area includes the APS Orchard Substation, a 230 kV transmission line entering the Orchard Substation from the north, and several 69 kV transmission lines throughout the study area. One such 69 kV line, owned by WAPA, is located on the BMGR west of SR 195. The Project would parallel this 69 kV line for approximately 5.7 miles. A natural gas transmission pipeline, understood to be operated by El Paso Natural Gas Company (a subsidiary of Kinder Morgan), follows South Avenue 4E and East County 18th Street within the Study Area (Pipeline and Hazardous Materials Safety Administration 2022). The Project would parallel the natural gas pipeline for approximately 1 mile along South Avenue 4E. The Study Area overlaps the Yuma Mesa Irrigation and Drainage District; however, the Gen-Tie would not cross or intersect any canals (Yuma County Agriculture Water Coalition 2018).

Planned Land Use

The Yuma County 2020 Comprehensive Plan, City of Yuma 2022 General Plan, and Barry M. Goldwater Range 2018-2023 Integrated Natural Resources Management Plan (BMGR INRMP) are the current planning guides for the respective land within the Study Area. The plans provide a compilation of policies, text, graphics, and maps. The Yuma County Comprehensive Plan serves as a guide for future development in the unincorporated areas of Yuma County; the City of Yuma's General Plan serves as a guide for future community development within the City's municipal limit. The BMGR INRMP illustrates current military use at the BMGR. Planned land use, as designated by the land use plans included in the Comprehensive Plan and General Plan, is illustrated in Exhibit A-3. Generally, the

⁶ The solar facility affiliated with the Project Gen-Tie would directly supply the green hydrogen facility with renewable energy.

“planned land use” categories designated in the Comprehensive and General Plans serve as a guide for appropriate land uses if a particular parcel is proposed for rezoning.

Designated planned land uses within the Study Area include agriculture, resort recreation, open space, residential, mixed use, commercial, business park, industrial, agriculture-industrial, and public/quasi-public land uses (Yuma County 2012, City of Yuma 2022). The Project does not require an amendment to either the Yuma County Comprehensive Plan or the City of Yuma General Plan.

The portion of the BMGR intersecting the Study Area is generally closed to the public and is designated as Restricted Access/Hazard Areas (Colorado State University 2018). Military facilities located southeast of the Study Area include an Auxiliary Airfield, a Parachute Drop Zone, multiple Observation Position points, and multiple training ranges. To the south of the Study Area is a Multi-Purpose Machine Gun Range (Colorado State University. 2018).

Impact Assessment and Results

Land use impacts may be defined as restrictions on a land use that would result from the construction or operation of the Project, or incompatibility with existing or planned land use plans. Typically, restrictions on land use would result from right-of-way or easement acquisition across a property.

To minimize land use impacts, the majority of the Project would traverse the BMGR. Public access is restricted on the BMGR, and the parcels west of SR 195 are not actively used for military purposes; therefore, that portion of the Project would not result in any land use impacts. Paralleling the existing, WAPA-owned, overhead 69 kV transmission line represents an overall consolidation of utility infrastructure. Where the Project would traverse State Trust land, the necessary easement and right-of-way for the Gen-Tie would not interfere with the existing agricultural land uses. Overall, the Project is consistent with existing and planned land uses and is not expected to encumber or otherwise result in land use impacts.

NEPA Categorical Exclusion

The Project requires a grant of location and easement from the U.S. Navy for the portion of the route that would traverse the BMGR. Granting an easement for the Project constitutes a federal action requiring compliance with federal environmental laws, including NEPA. NEPA review for granting the easement is anticipated to proceed under the U.S. Navy's categorical exclusion #35, which excludes the “acquisition, installation, modernization, repair, or operation of utility (including, but not limited to, water, sewer, and electrical) and communication systems (including, but not limited to, data processing cable and similar electronic equipment) that use existing rights of way, easements, distribution systems, and facilities” from further analysis under NEPA.

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- City of Yuma. 2022. *City of Yuma 2022 General Plan*. Available at: <https://www.yumaaz.gov/home/showpublisheddocument/5172/637939261174930000>. Accessed September 2022.
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EXHIBIT C. AREAS OF BIOLOGICAL WEALTH

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

Describe any areas in the vicinity of the proposed site or route which are unique because of biological wealth or because they are habitats for rare and endangered species. Describe the biological wealth or species involved and state effects, if any, the proposed facilities will have thereon.

Introduction

SWCA Environmental Consultants (SWCA) conducted a biotic resource review to identify areas of biological wealth and the rare and endangered species that may occur at or in the vicinity of the Project. SWCA consulted data sources including:

- Topographical and aerial maps and land use, land cover, and elevation data
- The U.S. Fish and Wildlife Service (USFWS) species list for the proposed Orchard Solar Project obtained from the USFWS online Information for Planning and Consultation (IPaC) system (Exhibit C1)
- Species information obtained from the USFWS Environmental Conservation Online System, the USFWS Arizona Ecological Services document library, and the Arizona Game and Fish Department (AGFD) Online Environmental Review Tool (Exhibit C-2).

The AGFD Online Environmental Review Tool database query establishes a buffer beyond the Study Area to search for occurrence records and the presence of modeled habitat. The size of the buffer depends on the type of project being considered. For this Project, the buffer is 5 miles beyond the Project Area. This buffer fully encompasses the 2-mile radius Study Area.

In addition, an SWCA biologist with expertise in the biology of flora and fauna of the region completed field surveys for the Orchard Solar Facility, an area immediately adjacent to the segment of Gen-Tie along East County 19th Street. Regarding the BMGR, SWCA reviewed publicly available information to describe potential conditions on the land west of SR 195. Sources utilized include Barry M. Goldwater Range Integrated Natural Resources Management Plan, August 2018 Update (BMGR INRMP 2018 Update) (Colorado State University Center for Environmental Management of Military Lands [CEMML] 2018) and the Vegetation of the Barry M. Goldwater Range West, Marine Corps Air Station – Yuma, Arizona (Malusa and Sundt 2015).

All plant and wildlife species observed in the Project Area and Study Area during surveys in June, July, and August 2022, for related project activities on Arizona State Land Department (ASLD) lands in the CEC Project Area outside BMGR and portions of the Study Area, were recorded (see Exhibit D for a complete list). The site was assessed to determine if habitat features for species protected under the federal, state, or local regulations were present in the Project Area and Study Area.

Laws and Policies

Applicable laws and policies regarding special-status species in Arizona include the following:

- The USFWS administers the **Endangered Species Act of 1973 (ESA), as amended**, which protects wildlife species listed as threatened or endangered from “take” (generally, directly, or indirectly harming or disturbing listed species). However, the ESA does not provide the same take protections for listed plant species, except on federal land. The ESA also allows for the designation of critical habitat for listed species, although designation of critical habitat is not required. Critical habitat is an administrative designation of a defined area with specific characteristics important to the survival and recovery of a listed species. Designation of critical habitat can affect federal actions, but not state or private actions without a federal nexus.
- The **Migratory Bird Treaty Act (MBTA)** provides for the protection of migratory birds and prohibits their unlawful take or possession. The act bans “taking” any native birds; “taking” can mean killing a wild bird or possessing parts of a wild bird, including feathers, nests, or eggs. Exceptions are allowed for hunting game birds and for research purposes, both of which require permits.
- The **Bald and Golden Eagle Protection Act (BGEPA)** prohibits any form of possession or taking of bald eagles (*Haliaeetus leucocephalus*) or golden eagles (*Aquila chrysaetos*). A 1962 amendment to the MBTA created a specific exemption for possession of an eagle or eagle parts (e.g., feathers) for religious purposes of Native American tribes. The amendment provided for not only the preservation of the golden eagle but also the preservation of Native American cultural practices.
- The AGFD manages and conserves wildlife in Arizona. Arizona does not have a counterpart to the federal ESA, but nearly all take of wildlife is regulated in some manner through the **AGFD’s hunting and fishing license system**. A list of rare species (**Wildlife Species of Concern [WSC]**) was created in 1996 without creating any specific statutory protections for those species (AGFD 1996). However, hunting regulations are used to provide some protection. While WSC is no longer a valid category, AGFD continues to track these species due to an existing Memorandum of Understanding between the USFWS and AGFD. Generally, no hunting or capture of WSC is allowed, with some exceptions for managed recreational fisheries of native fish (AGFD 2017) and recreational capture of certain reptiles (AGFD 2015).
- Arizona prepared a Comprehensive Wildlife Conservation Strategy in 2006 (AGFD 2006), later renamed the **State Wildlife Action Plan (SWAP)**, through a state–federal partnership and grant program. The SWAP was updated in 2012 (AGFD 2012). The SWAP identifies **Species of Greatest Conservation Need (SGCN)**, in several tiers. Tier 1A species are those for which the AGFD has entered into an agreement or has legal or other contractual obligations or warrants the protection of a closed season. This tier includes all ESA-listed threatened and endangered species and other rare species. Tier 1B represents the remainder of the species meeting the AGFD’s vulnerability criteria, including species that are not listed but are regionally rare or declining, species with a U.S. range primarily in Arizona that are dependent on conservation efforts within the state, and other species with identified conservation issues that may warrant management action. Tier 1C species are those for which existing data were insufficient to score one or more vulnerability criteria due to substantial data gaps and unknown conservation status, but where conservation concern may be warranted. Other tiers include species that are common, widespread, or in stable populations. Species identified as WSC in 1996 are included as SGCNs in the SWAP and are addressed as SGCNs in Table C-1 and the discussion in this exhibit.

- Native plants in Arizona are managed by the Arizona Department of Agriculture (ADA) under the **Arizona Native Plant Law** (ANPL; Arizona Revised Statute 3-903; Arizona Administrative Code R3-3-208), which regulates harvest, salvage, and transport of plants. Harvest or salvage of most plant species may be permitted or required, and fees may be assessed on state land. Plants listed in the Highly Safeguarded category may only be taken or salvaged for scientific or conservation purposes. The ANPL identifies a lengthy list of plant species—largely cacti, agaves, yuccas, and desert trees—that are susceptible to removal for collection, landscaping, sale, or other commercial uses. The ANPL states that these plants shall not be taken, transported, or possessed from any land without permission and a permit from the ADA; it also requires notification prior to land clearing even if the plants will be destroyed.
- The ADA administers the **state noxious weed law** under Arizona Administrative Code R3-4-245. Arizona maintains a list of noxious weeds in three categories: Class A, Class B, and Class C (ADA 2022). Class A species are those that are not known to occur in Arizona and are of limited distribution, and are of high priority for quarantine, control, or mitigation. Class B noxious weeds are species known to occur but are of limited distribution in Arizona and may be high-priority pests for quarantine, control, or mitigation if a significant threat to crop, commodity, or habitat exists. Class C noxious weeds are plant species that are widespread but may be recommended for active control based on risk assessment.

Inventory

In August 2202, SWCA biologists with expertise in the biology of flora and fauna of the region surveyed portions of the Study Area immediately south of East County 19th Street, including the segment of the CEC corridor South of East County 19th Street between Avenue 1 ½ E and the aggregate mining facility at the corner of East County 19th Street and SR 195. Other observations from other Project-related surveys in portions of the Study Area from June 27 to July 1 and July 5 to July 8, 2022, are also included. All plants and wildlife observed were recorded during the survey efforts.

In addition, the biologist documented existing conditions and noted any habitat features that may be important to special-status species or related to areas of biological wealth in the Project Area and Study Area.

On October 18, 2022, SWCA queried the USFWS IPaC database to generate an unofficial list of ESA-listed species that have the potential to occur in the Study Area (USFWS 2022a) (see Exhibit C-1). In addition, the AGFD Online Environmental Review Tool was queried on October 10, 2022, to generate a list of special-status species with records within 5 miles of the Project Area and a list of SGCNs with modeled suitable habitat intersecting the Project Area (AGFD 2022a) (see Exhibit C-2).

Summary of Occurrence

The USFWS and AGFD identified several endangered, threatened, candidate, and other special-status species that are known to occur or could occur in the region (i.e., within the Study Area for USFWS and within the Project Area plus a 5-mile buffer for AGFD). These special-status species and the likelihood of their being present in the vicinity of the proposed Gen-Tie are addressed below in six sections: 1) Areas of Biological Wealth, 2) Federally Listed Threatened and Endangered Species, 3) Bald and Golden Eagles, 4) Other Special-Status Species, 5) State-Protected Native Plants, and 6) Noxious Weeds (AGFD 2022a; USFWS 2022a).

Areas of Biological Wealth

No designated or proposed critical habitat occurs within the Project Area or Study Area (USFWS 2022a).

No Important Bird Areas (IBAs) or proposed or designated critical habitat occurs within the Project Area or Study Area. The closest IBA, the Lower Colorado River Gadsden Riparian Area IBA, is approximately 8 miles west of the Study Area and 10 miles west of the Project Area along the Colorado River (Audubon 2022).

The flat-tailed horned lizard (FTHL) (*Phrynosoma mcallii*) Yuma Desert Management Area (MA) is located east and south of SR 195. Neither the proposed route for the Project nor the requested CEC corridor intersect the MA. Furthermore, SR 195 forms a barrier between the FTHL MA and the CEC corridor (U.S. Department of the Air Force and U.S. Marine Corps 2021: 5-16).

A Candidate Conservation Agreement (CCA) between multiple government agencies with jurisdiction related to FTHL MAs provides guidance for the conservation and management of habitat required for FTHL populations in five MAs in Arizona and California (Flat-tailed Horned Lizard Interagency Coordinating Committee 2003).

Federally Listed Threatened and Endangered Species

Three species listed as endangered, one species listed as threatened, and one candidate species were identified in the USFWS species list for the Study Area (USFWS 2022a). The ESA-listed threatened and endangered species are Sonoran pronghorn (*Antilocapra americana sonoriensis*), southwestern willow flycatcher (*Empidonax traillii extimus*), yellow-billed cuckoo (*Coccyzus americanus*), and Yuma Ridgway's (clapper) rail (*Rallus obsoletus yumanensis*). The Sonoran pronghorn is also an experimental non-essential population (EXPN) species; however, the Project and Study Areas are outside of the 10(j) experimental population area, and as such, it would be treated as endangered in the Project Area and Study Area. The candidate species is monarch butterfly (*Danaus plexippus*). The species' federal status and potential for occurrence in the vicinity of the Project are presented in Table C-1.

BALD AND GOLDEN EAGLES

Bald eagle and golden eagle are protected under both the MBTA and the Bald and Golden Eagle Protection Act of 1940, as amended (16 United States Code 668–668d or 50 Code of Federal Regulations 22).

The bald eagle is protected under the MBTA and BGEPA and is a SGCN 1A species. Nests are generally placed in large deciduous or coniferous trees or cliffs, with a commanding view of the area, less than 1 mile from appropriate aquatic foraging conditions (e.g., perennial rivers or lakes containing fish) (Buehler 2000). The species communally roosts in the winter in large (15–60 m in height) deciduous or coniferous trees, which tend to be located near aquatic foraging sites (<50 m) but may be located more than 6 miles from aquatic foraging sites, particularly in areas sheltered from adverse weather conditions with unusually high prey or carcass availability (Buehler 2000; USFWS 2007, 2013). Wintering/non-breeding individuals and juveniles are typically associated with breeding habitats; however, they may range widely in search of food, shelter, and reduced human presence (Buehler 2000).

The Project Area and Study Area are within the non-breeding range of the species, and agricultural fields may provide foraging resources. The Project Area and Study Area do not contain characteristic nesting or roosting habitats. The nearest documented nesting areas are over 100 miles away; northeast along the Gila River and north along Bill Williams River (Southwestern Bald Eagle Management Committee 2022).

Golden eagles are protected under the MBTA and BGEPA, and as an SGCN 1B species. They require large, open hunting grounds adjacent to mountainous canyonland and rimrock terrain of open desert, grassland, and forested areas (Katzner et al. 2020; Marzluff et al. 1997). The presence of sizeable shrub (e.g., sagebrush [*Artemisia* spp.], rabbitbrush [*Chrysothamnus* spp.]) patches is an essential component of golden eagle home ranges (Marzluff et al. 1997). Nests are placed in rugged terrain (e.g., cliffs), less often in tall trees and on human-made structures (e.g., transmission towers) (Katzner et al. 2020). Wintering/nonbreeding individuals and juveniles are typically associated with breeding habitats; however, they may range widely in search of food (Katzner et al. 2020). The nearest known breeding area for the golden eagle is in Yuma County in the Mohawk Mountains, approximately 55 miles east of the evaluation area (McCarty et al. 2020). Although the Project Area and Study Area do not contain suitable nesting habitat for golden eagle and are outside the species' predicted year-round range (AGFD 2002), individuals may forage or move through.

The eagle's status and potential for occurrence in the vicinity of the Project are presented in Table C-1.

Table C-1. Evaluation of Federally Listed and BGEPA Species within the Study Area

Common Name (Scientific Name)	Status*	Range or Habitat Requirements	Occurrence Status
Mammals			
Sonoran pronghorn (<i>Antilocapra americana sonoriensis</i>)	E, EXPN	Range includes mountainous areas north and east of Yuma. Mean elevations of the valleys vary from 400 to 1,600 feet. The only extant U.S. population is in southwestern Arizona; however, the USFWS has established a 10(j) area for reintroductions. Populations in Arizona include the Cabeza Prieta, Kofa, and Saucedo populations.	Unlikely to occur. The Project Area and Study Area are outside the non-essential experimental population range. The Saucedo population range includes eastern portions of the BMGR West, where this species is known to occur east of the Gila and Tinajas Altas Mountains (CEMML 2018). In addition, the reintroduction site for this population occurs near Highway 85, more than 90 miles east of the Project Area.
Birds			
Bald eagle (<i>Haliaeetus leucocephalus</i>)	BGEPA	Occurs in aquatic habitats with open water or Southwest arid regions with available food and roost sites. Nonbreeding eagles range throughout Arizona except for the south-central portion of the state; breeding eagles occur in limited, fragmented locations of central, east-central, and west-central portions of the state.	May occur. The Project Area and Study Area do not contain preferred breeding or roosting habitats but is within non-breeding range and eagles may move through the area.
Golden eagle (<i>Aquila chrysaetos</i>)	BGEPA	Found in mountainous canyon land, rimrock terrain of open desert, grassland, and forested areas. Year-round range includes all of Arizona.	May occur. Although suitable nesting habitat is not present in the Project Area or Study Area, eagles may forage or move through the area.
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	E	Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood (<i>Populus</i> spp.), willow (<i>Salix</i> spp.), boxelder (<i>Acer negundo</i>), saltcedar (<i>Tamarix</i> spp.), Russian olive (<i>Elaeagnus angustifolia</i>), buttonbush (<i>Cephalanthus</i> spp.), and arrowweed (<i>Pluchea sericea</i>) are present. Nests are found in thickets of trees and shrubs, primarily those that are 13 to 23 feet high, among dense, homogeneous foliage. Habitat occurs at elevations below 8,500 feet above mean sea level (amsl).	Unlikely to occur. Suitable habitat for this species is not present in the Project Area or Study Area. The nearest potentially suitable habitat is about 8 miles west of the Study Area along the Colorado River.

Common Name (Scientific Name)	Status*	Range or Habitat Requirements	Occurrence Status
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	T	Typically found in riparian woodland vegetation (cottonwood, willow, or saltcedar) at elevations below 6,600 feet amsl. Dense understory foliage appears to be an important factor in nest site selection. The highest concentrations in Arizona are along the Agua Fria, San Pedro, upper Santa Cruz, and Verde River drainages and Cienega and Sonoita Creeks.	Unlikely to occur. Suitable habitat for this species is not present in the Project Area or Study Area. The nearest potentially suitable habitat is about 8 miles west of the Study Area along the Colorado River.
Yuma Ridgway's (clapper) rail (<i>Rallus obsoletus yumanensis</i>)	E	Found in freshwater and brackish marshes below 4,500 feet amsl.	Unlikely to occur. Suitable habitat for this species is not present in the Project Area or Study Area. The nearest potentially suitable habitat is about 8 miles west of the Study Area along the Colorado River.
Insects			
Monarch butterfly (<i>Danaus plexippus</i>)	C	Habitat is complex. Generally, breeding areas are virtually all patches of milkweed (<i>Asclepias</i> sp.). The species occurs throughout Arizona during the summer and migrates to winter in Mexico and California, though small numbers do overwinter in the low deserts of southwestern Arizona.	May occur. This species may be present as transients during migration or as occasional individuals passing through the Study Area enroute to larval food plants or nectar resources. No <i>Asclepias</i> species were observed in the Project Area for larval use, but nectar sources are available for foraging and migration.

Note: This table lists the species named in the USFWS official species list (USFWS 2022a) and the Arizona Online Environmental Review Tool (AGFD 2022a).

Sources: AGFD (2022a); CEMML (2018); Eddleman and Conway (2020); USFWS (2022b). Notes regarding documentation within 5 miles of the evaluation area are from AGFD (2022a).

BGEPA = Bald and Golden Eagle Protection Act; C = candidate; E = endangered; T = threatened, EXPN = experimental non-essential population.

Other Special-Status Species

Other special-status species include the following:

- Flat-tailed horned lizard is a SGCN (1A) species and is managed under a CCA (Flat-tailed Horned Lizard Interagency Coordinating Committee 2003).
- Birds of Conservation Concern (BCC), which are bird species, beyond those designated as federally threatened or endangered, that represent the USFWS's highest conservation priorities. The relevant BCC for this analysis are those identified by the USFWS (2021) as occurring in Bird Conservation Region (BCR) 33.
- SGCN in Arizona, which are species identified by the AGFD as warranting heightened attention because of low and declining populations. SGCN are prioritized into tiers. Tier 1A species are those for which the AGFD has entered into an agreement or has legal or other contractual obligations or warrants the AGFD to implement the protection of a closed season. This tier includes all federally threatened and endangered species. Tier 1B represents the remainder of the species meeting the AGFD's vulnerability criteria. Tier 1C species are those for which existing data were insufficient to score one or more vulnerability criteria.

The species in these categories (other than those also designated as federally threatened or endangered, candidate, EXPN, or BGEPA, which are addressed above) have occurrence records or predicted habitat modeled within 5 miles of the Project Area (AGFD 2022a). These species are discussed and listed below in Table C-2, where they are evaluated for potential occurrence based on the results of Project Area surveys, familiarity with the vicinity, and freely available information sources including the following:

- AGFD's Heritage Data Management System (AGFD 2022b)
- Online field guide *Reptiles and Amphibians of Arizona* (Brennan 2012)
- *The Breeding Bird Atlas* (Corman and Wise-Gervais 2005)
- Online field guide *All About Birds* (Cornell Lab of Ornithology 2022);
- eBird (2022)
- Google Earth (2022)
- USFWS Environmental Conservation Online System website (USFWS 2022b)

Table C-2. Other Special-Status Species with Potential to Occur in the Vicinity of the Study Area

Common Name (<i>Scientific Name</i>)	Habitat and Notes	Status*		Occurrence Status	
		Federal	State	Project Area	Study Area
Plants					
Algodones sunflower (<i>Helianthus niveus</i> ssp. <i>tephrodes</i>)	Found in sand dunes or sandy flats of the Algodones Dunes.	—	—	May occur. Suitable habitat is present within the Project Area; however, the Project Area is not near any known population of the species.	May occur. Suitable habitat is present within the Study Area; however, the Study Area is not near any known population of the species.
Blue sand lily (<i>Triteleopsis palmeri</i>)	Occurs in sandy dunes in low desert creosote bush (<i>Larrea tridentata</i>) scrub.	—	ANPL Salvage Restricted	May occur. Suitable habitat is present within the Project Area	May occur. Suitable habitat is present within the Study Area
Amphibians					
Sonoran Desert toad (<i>Incilius alvarius</i>)	Found in Sonoran desertscrub, Semidesert Grasslands, oak, and occasionally pine-oak woodland habitats up to about 5,800 feet. Associated with major rivers, edges of agriculture; though often tied to permanent water, can be found miles from water during summer monsoon season, in some areas.	—	SGCN (1B)	Unlikely to occur. Suitable habitat is not present within the Project Area.	May occur. Suitable agricultural habitat occurs within the Study Area.
Birds					
Abert's towhee (<i>Melospiza aberti</i>)	Common in riparian woodlands or mesquite bosques near water and in residential and agricultural settings.	MBTA	SGCN (1B)	May occur. Suitable habitat is present within the Project Area.	May occur. Suitable habitat is present within the Study Area.
American bittern (<i>Botaurus lentiginosus</i>)	Found in marshlands and very wet meadows. Occurs along rivers, lakes, and ponds with developed wetland habitat.	MBTA	SGCN (1B)	Unlikely to occur. No habitat is present in the Project Area.	Unlikely to occur. No habitat is present within the Study Area.
Brown-crested flycatcher (<i>Myiarchus tyrannulus</i>)	Breeds in riparian habitat in Arizona.	MBTA	SGCN (1C)	Unlikely to occur. No habitat is present in the Project Area.	Unlikely to occur. No suitable habitat is present within the Study Area.

Common Name (Scientific Name)	Habitat and Notes	Status*		Occurrence Status	
		Federal	State	Project Area	Study Area
Costa's hummingbird (<i>Calypte costae</i>)	Found in Sonoran and Mojave desertscrub near washes of native desert vegetation or rocky slopes of saguaros and creosote bush lowlands.	MBTA BCC	SGCN (1C)	May occur. Suitable habitat is present within the Project Area.	May occur. Suitable habitat is present within the Project Area
Ferruginous hawk (<i>Buteo regalis</i>)	Favors open scrublands, woodlands, and grasslands.	MBTA	SGCN (1B)	May occur. Winter foraging habitat is present in the Project Area.	May occur. Winter foraging habitat is present within the Study Area.
Gila woodpecker (<i>Melanerpes uropygialis</i>)	Occurs in Sonoran desertscrub with saguaros present, or riparian woodlands with mature trees.	MBTA BCC	SGCN (1B)	May occur. Suitable habitat is present within the Project Area.	Known to occur. This species was observed within the Study Area during surveys.
Gilded flicker (<i>Colaptes chrysoides</i>)	Found in Sonoran desertscrub with saguaros present, or riparian woodlands with mature trees.	MBTA BCC	SGCN (1B)	Unlikely to occur. No suitable habitat is present within the Project Area.	Unlikely to occur. No suitable habitat is present within the Study Area.
LeConte's thrasher (<i>Toxostoma lecontei</i>)	Occurs in Sonoran desertscrub dominated by creosote bush, with scattered trees used for nesting.	MBTA BCC	SGCN (1B)	May occur. Suitable habitat is present within the Project Area.	May occur. Suitable habitat is present within the Study Area.
Lincoln's sparrow (<i>Melospiza lincolni</i>)	Winters in central Arizona; prefers dense, brushy areas, often near water.	MBTA	SGCN (1B)	Unlikely to occur. No habitat is present in the Project Area.	Unlikely to occur. No habitat is present in the Study Area
Lucy's warbler (<i>Oreothlypis luciae</i>)	Found in mesquite bosques and xeroriparian washes.	MBTA	SGCN (1C)	Unlikely to occur. No habitat is present in the Project Area.	Unlikely to occur. No habitat is present in the Study Area.
Marsh wren (<i>Cistothorus palustris</i>)	Occurs in marshes or wetlands with cattails, bulrushes, and cordgrass present.	MBTA	SGCN (1C)	Unlikely to occur. No habitat is present in the Project Area.	May occur. Suitable habitat with cattails is present within the Study Area.
Mountain plover (<i>Charadrius montanus</i>)	Non-breeding visitor to Arizona; in winter prefers dry plains and agricultural fields.	MBTA BCC [†]	SGCN (1B)	Unlikely to occur. No habitat is present in the Project Area.	May occur. Suitable habitat is present within the Study Area.
Pacific wren (<i>Troglodytes pacificus</i>)	Non-breeding visitor to Arizona; in winter prefers riparian areas.	MBTA	SGCN (1B)	Unlikely to occur. No habitat is present in the Project Area.	Unlikely to occur. No suitable habitat is present within the Study Area.
Red-naped sapsucker (<i>Sphyrapicus nuchalis</i>)	Wintering habitat includes pine oak woodlands, deciduous trees, and orchards.	MBTA	SGCN (1C)	Unlikely to occur. No habitat is present in the Project Area.	Unlikely to occur. No suitable habitat is present within the Study Area.
Savannah sparrow (<i>Passerculus sandwichensis</i>)	Non-breeding winter visitor to Arizona. Utilizes fields, pastures, and golf courses.	MBTA	SGCN (1B)	Unlikely to occur. No habitat is present in the Project Area.	May occur. Suitable habitat in the form of agricultural fields is present within the Study Area.
Sprague's pipit (<i>Anthus spragueii</i>)	Prefers open sandy coastal beaches and barren shores of inland saline lakes or river bars.	MBTA BCC	SGCN (1A)	Unlikely to occur. No habitat is present in the Project Area.	Unlikely to occur. No habitat is present within the Study Area.

Common Name (Scientific Name)	Habitat and Notes	Status*		Occurrence Status	
		Federal	State	Project Area	Study Area
Western burrowing owl (<i>Athene cunicularia hypugaea</i>)	Found in open areas with low brush cover, including grasslands, agricultural margins and desertscrub. Year-round resident or migratory.	MBTA BCC	SGCN (1B)	May occur. Suitable habitat is present in the Project Area.	Known to occur. Owls were observed during surveys, and suitable habitat is present within the Study Area.
Wood duck (<i>Aix sponsa</i>)	Prefers streams and ponds with trees and other dense vegetation.	MBTA	SGCN (1B)	Unlikely to occur. No habitat is present in the Project Area.	Unlikely to occur. No habitat is present in the Study Area.
Reptiles					
Gila monster (<i>Heloderma suspectum</i>)	Sonoran desert, desert grassland, and at times oak woodland in rocky areas.	–	SGCN (1A)	Unlikely to occur. No habitat is present in the Project Area.	Unlikely to occur. No habitat is present in the Study Area.
Goode's horned lizard (<i>Phrynosoma goodei</i>)	Found in flat open areas with sandy or loamy soils in Sonoran desertscrub.	–	SGCN (1B)	May occur. Suitable habitat is present within the Project Area.	May occur. Suitable habitat is present within the Study Area.
Resplendent shovel-nosed snake (<i>Chionactis annulata</i>)	Occurs in sandy washes with xeroriparian habitat or bajadas with little vegetation.	–	SGCN (1C)	Unlikely to occur. No habitat is present in the Project Area.	Unlikely to occur. No habitat is present in the Study Area.
Sonoran collared lizard (<i>Crotaphytus nebrius</i>)	Found in bajadas and slopes in Sonoran desertscrub in areas with rocks and boulders for basking.	–	SGCN (1B)	Unlikely to occur. No habitat is present in the Project Area.	Unlikely to occur. No habitat is present in the Study Area.
Yuman Desert fringe-toed lizard (<i>Uma rufopunctata</i>)	Found in sparsely vegetated sand dunes and flats	–	SC, SGCN (1B)	May occur. Suitable habitat is present within the Project Area.	May occur. Suitable habitat is present within the Study Area.
Flat-tailed horned lizard (<i>Phrynosoma mcallii</i>)	Occurs in Sonoran desertscrub in low dunes and flatlands with packed sand and minimal vegetation.	CCA	SGCN (1A)	May occur. Habitat is present and the species is known from the Study Area and vicinity. No individuals were observed in the portions of the Project Area surveyed. Potential habitat is present in the Project Area within the BMGR.	Known to occur. Individuals were observed in the Study Area outside the Project Area during surveys.
Mammals					
Arizona myotis (<i>Myotis occultus</i>)	Occurs in ponderosa pine and oak-pine woodlands near water. Also, along lower Colorado and Verde Rivers.	–	SGCN (1B)	Unlikely to occur. No habitat is present in the Project Area.	Unlikely to occur. There are no woodlands or riparian features in the Study Area.
Greater Western bonneted bat (<i>Eumops perotis californicus</i>)	Found in Sonoran desertscrub near cliffs.	–	SGCN (1B)	Unlikely to occur. No cliff habitat is present in the Project Area.	Unlikely to occur. No cliff habitat is present in the Study Area.
Harris' antelope squirrel (<i>Ammospermophilus harrisi</i>)	Found in Sonoran desertscrub.	–	SGCN (1B)	May occur. Habitat is present in the Project Area.	May occur. Habitat is present in the Study Area.

Common Name (Scientific Name)	Habitat and Notes	Status*		Occurrence Status	
		Federal	State	Project Area	Study Area
Kit fox (<i>Vulpes macrotis</i>)	Occurs in open desert or arid grasslands.	–	SGCN (1B)	May occur. Habitat is present in the Project Area.	May occur. Habitat is present in the Study Area.
Little pocket mouse (<i>Perognathus longimembris</i>)	Found in areas with sandy soils in desertscrub.	–	SGCN (1B)	May occur. Habitat is present in the Project Area.	May occur. Habitat is present in the Study Area.
Pale Townsend's big-eared bat (<i>Corynorhinus townsendii pallescens</i>)	Found in desertscrub up to coniferous forests. Roosts in caves, mines, lava tubes and occasionally abandoned buildings.	–	SGCN (1B)	May occur. The species may utilize the Project Area for foraging. No roosting habitat is present.	May occur. The species could utilize the Study Area for foraging, and roosting habitat is present in abandoned buildings.
Pocketed free-tailed bat (<i>Nyctinomops femorosaccus</i>)	Found in desertscrub. Roosts in rock crevices and caves and in buildings at times.	–	SGCN (1B)	May occur. The species may utilize the Project Area for foraging. No roosting habitat is present.	May occur. The species could utilize the Study Area for foraging, and roosting habitat is present in abandoned buildings.
Spotted bat (<i>Euderma maculatum</i>)	In Arizona, found primarily in desertscrub or ponderosa pine forest. Roosts in cliff faces.	–	SGCN (1B)	May occur. The species may utilize the Project Area for foraging. No roosting habitat is present.	May occur. The species could utilize the Study Area for foraging. No roosting habitat is present in the Study Area.
Yuma hispid cotton rat (<i>Sigmodon hispidus eremicus</i>)	Found in dense grassy areas such as fields and along roadside edges, brushy or weedy areas among weeds and cattails along the Colorado River, and streams or ponds, in irrigated fields, and desertscrub.	–	SGCN (1B)	May occur. Desertscrub habitat is present in the Project Area.	May occur. Desertscrub habitat and irrigated fields are present in the Study Area.

Source: Range or habitat information is from AGFD (2022a, 2022b); Brennan (2012); CEMML (2018); Corman and Wise-Gervais (2005); Cornell Lab of Ornithology (2022); eBird (2022); and USFWS (2022a, 2022b).

Note: Notes regarding documented occurrence, other than observations made during SWCA's Project-specific surveys, are from AGFD (2022a, 2022b).

*** Federal Status Definitions**

BCC = Bird of Conservation Concern.

BCC[†] = Bird of Conservation Concern for regions other than BCR 33. Included in table because they are also Arizona SGCN.

BCC-nb = Bird of Conservation Concern with nonbreeding status.

BGEPA = Bald and Golden Eagle Protection Act

ESA = Endangered Species Act

MBTA = Migratory Bird Treaty Act

State Status Definitions

SGCN = Species of Greatest Conservation Need; species identified by AGFD (2012) as having conservation priority. Tier 1B species are those categorized as "vulnerable" but not fitting the Tier 1A criteria for highest priority. Tier 1C species are those for which existing data were insufficient to score one or more vulnerability criteria.

**Species that were observed in the Project Area during the 2022 field surveys.

BIRDS OF CONSERVATION CONCERN

The Project Area and Study Area are within BCR 33 (USFWS 2021), for which 27 BCC species are listed. A query of the AGFD Online Environmental Review Tool found modeled habitat for seven of these species in the Project Area (AGFD 2022a) (see Exhibit C-2). Of these seven species, two are known

to occur in the Study Area and may occur in the Project Area: Gila woodpecker (*Melanerpes uropygialis*) and western burrowing owl (*Athene cunicularia hypugaea*) (see Table C-2). Two additional species, Costa's hummingbird (*Calypte costae*) and LeConte's thrasher (*Toxostoma lecontei*), may occur in the Project and Study Areas but were not observed during field studies (see Table C-2). Mountain plover (*Charadrius montanus*) would only potentially occur within the Study Area as a nonbreeding species during winter months (see Table C-2); it is not likely to occur in the Project Area. Birds that are BCC for regions other than BCR 33 but that are classified as SGCN in Arizona are considered in the following section. Other birds may be attracted to the agricultural areas in the Study Area for nesting, roosting, foraging, or reproduction.

SPECIES OF GREATEST CONSERVATION NEED

Twenty-eight species categorized as SGCN 1A or 1B (excluding those federally listed species that have already been addressed in the previous section) have the potential to occur within the proposed Project Area (see Table C-2). Of these 30 species, 14 may occur in the Project Area and 19 may occur or are known to occur in the Study Area. Of the 19 species that may occur or are known to occur within the Project Area and Study Area, eight are birds, three are reptiles, one is an amphibian, and seven are mammals (see Table C-2). The bird species that may occur include bald eagle, golden eagle, Abert's towhee (*Melospiza aberti*), ferruginous hawk (*Buteo regalis*), Gila woodpecker, LeConte's thrasher, and western burrowing owl. The reptile species that may occur in the Project Area include Goode's horned lizard (*Phrynosoma goodei*), Yuman Desert fringe-toed lizard (*Uma rufopunctata*), and flat-tailed horned lizard (*Phrynosoma mcallii*). The mammals species that may occur in the Project Area include Harris' antelope squirrel (*Ammospermophilus harrisi*), kit fox (*Vulpes macrotis*), little pocket mouse (*Perognathus longimembris*), pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), spotted bat (*Euderma maculatum*), and Yuma hispid cotton rat (*Sigmodon hispidus eremicus*).

In addition, one amphibian species, Sonoran Desert toad (*Incilius alvarius*) and two bird species, mountain plover and savannah sparrow (*Passerculus sandwichensis*), may occur in the Study Area but are unlikely to occur in the Project Area.

No SGCN fish species are likely to occur within 5 miles of the proposed Project Area.

Six species listed as SGCN 1C have the potential to occur within 5 miles of the Project Area (see Table C-2). Of these six species, two have the potential to occur: Costa's hummingbird and marsh wren (*Cistothorus palustris*). Costa's hummingbird may occur in both the Project Area and Study Area, and marsh wren may occur in the Study Area outside of the Project Area as it could utilize the isolated, small area of suitable habitat with cattails (*Typha* spp.) that occurs within the Study Area. None of the remaining species listed as SGCN 1C are likely to occur in the Project Area because no habitat is present within the Project Area.

Suitable habitat for the FTHL is located in the Project Area and Study Area and individuals were observed in the Study Area south of County 19th Street during the June and July 2022 site visits. Thus, the FTHL may occur in the Project Area and is known to occur in the Study Area. Previously, a barrier fence was constructed along State Route 195 near the Project Area to prevent small wildlife, including the FTHL, from crossing the road and being injured or killed; however, the fence was not maintained and currently is not effective, so the species could disperse into the Project Area from the MA (Flat Tailed Horned Lizard Interagency Coordinating Committee 2003). However, the roadway itself is likely a barrier that would minimize dispersal between the Project area and the MA.

STATE-PROTECTED NATIVE PLANTS

The ANPL identifies a list of plant species—largely cacti, agaves, yuccas, and desert trees—that are susceptible to removal for collection, landscaping, sale, or other commercial uses. The ANPL states that these plants shall not be taken, transported, or possessed from any land without permission and a permit from the ADA; it also requires notification prior to land clearing even if the plants will be destroyed. No plant species covered under the ANPL were observed in the Study Area during surveys; however, State protected native plants have the potential to occur in portions of the Project Area that were not surveyed. Many species protected by the ANPL occur within the BMGR (Malusa and Sundt 2015). There are records of one species, blue sand lily (*Triteleopsis palmeri*), protected under the ANPL as a Salvage Restricted species, within 5 miles of the Project Area.

NOXIOUS WEEDS

Arizona maintains a list of noxious weeds in three categories: Class A, Class B, and Class C (ADA 2022). Class A species are those that are not known to occur in Arizona and are of limited distribution, and are of high priority for quarantine, control, or mitigation. Class B noxious weeds are species known to occur but of limited distribution in Arizona and may be high-priority pests for quarantine, control, or mitigation if a significant threat to crop, commodity, or habitat exists. Class C noxious weeds are species of plants that are widespread but may be recommended for active control based on risk assessment. Asian (Saharan) mustard (*Brassica tournefortii*), a Class B noxious weed, is known to occur on BMGR West, which includes a portion of the Study Area (CEMML 2018). Noxious weeds are known to occur in the Study Area, but there are no records within the Project Area (iMap Invasives 2022). Measures will be taken to avoid spreading noxious weeds in the Study Area.

Summary of Potential Effects

Areas of Biological Wealth

No IBAs or proposed or designated critical habitat occurs within the Study Area.

The FTHL Yuma Desert MA is located on the BMGR east of SR 195. The requested corridor directly abuts SR 195 to the west, and a portion of the Study Area overlaps the Yuma Desert MA. Ground disturbance related to constructing the Gen-Tie would not occur in the MA. However, the FTHL within the Yuma Desert MA could see increased predation from an increase in the number of perches (i.e., transmission structures) for predators, which would result in minor impacts to the functioning of the MA.

Additional transmission structures constructed for the Gen-Tie would increase potential perching locations for predators of the FTHL, i.e., birds such as loggerhead shrikes (*Lanius ludovicianus*), American kestrel (*Falco sparverius*), and burrowing owls (*Athene cunicularia*), all of which were observed in the Study Area. Increased perching locations for avian predators of FTHL may cause an increase of depredation of FTHL in the western portion of the MA, or an increased avoidance of the area by FTHL. However, the portion of the Project adjacent to the MA would be parallel to an existing transmission line. Furthermore, as an overhead line, the Gen-Tie would not restrict the movement of the FTHL to large areas of more suitable habitat within the MA, located directly to the west of the Gen-Tie. Therefore, because of the lack of ground disturbance within the MA, the low likelihood of dispersal of individual FTHL out of the MA into the Project Area, and the limited increase of depredation on FTHL due to the existing transmission line, the Project would not have a significant impact on the functioning of the MA.

Federally Listed Threatened and Endangered Species

The Project Area and Study Area are outside the known range of the species or no suitable habitat occurs for the following species that are listed under the ESA, which would be unlikely to occur: Sonoran pronghorn, southwestern willow flycatcher, yellow-billed cuckoo, and Yuma Ridgway's (clapper) rail. Therefore, the Project would be unlikely to impact these species.

Habitat in the Study Area may be suitable for use by monarch butterfly, a candidate species. No milkweed (*Asclepias* spp.) was observed in the Study Area; however, monarch butterflies may utilize other plants in the Study Area for foraging but not for reproduction (USFWS 2020). As such, any potential Project impacts to the monarch butterfly would be minor. A very small portion of suitable dispersal or foraging habitat would be lost, relative to the total amount of habitat in the vicinity. Individuals may experience injury, mortality, change of behavior, or loss of forage as a result of the Project. Individuals would be expected to largely shift activity to nearby suitable habitat.

Bald and Golden Eagles

No suitable bald eagle nesting or foraging habitat (e.g., flowing rivers or lakes containing fish) and no tall trees or cliffs suitable for eagle perching are located within the Project Area or Study Area. However, the Gen-Tie is within the non-breeding range of the bald eagle, and this species may move through the Project Area and Study Area (see Table C-2). The Project Area does not appear to contain nesting sites for golden eagles (i.e., cliffs) (Google Earth 2022), but individuals may fly over the Project Area and Study Area while foraging (see Table C-2). These species were not documented by SWCA during related surveys in the Study Area during June, July, and August 2022. No impacts would be expected to bald or golden eagles as a result of this Project.

Other Special-Status Species

The following sections refer to species with special status that are not federally listed or candidates for federal listing.

SPECIAL-STATUS MAMMAL SPECIES

The Project Area is unlikely to support suitable roosting habitat for most bat species, though within the Study Area there may be buildings (abandoned or otherwise) that pale Townsend's big-eared bat and pocketed free-tailed bat could use for roosting. No palm trees, large riparian trees, or suitable building structures occur in the Project Area, and therefore, no bat roosts would be expected to be removed or destroyed as a result of the Project. Bats using trees or buildings as day roosts within the Study Area have the potential to be negatively impacted by noise impacts, leading to behavior changes or loss of fitness for individuals. Impacts would be minor as no trees used for day roosts are present within at least 600 feet of the Project Area where construction noise would be most prominent. Trees used for day roosts may be present outside the Study Area.

Bat species can collide with human-made structures during long-distance migration. Migrating bats often fly high above ground level and do not actively echolocate. However, during normal foraging activity, bats actively use echolocation and are typically able to detect and avoid features such as overhead transmission lines (Arnett et al. 2015). No information suggests that transmission lines in a setting such as the Study Area would pose a risk to bats.

Project construction activities could cause death or injury to terrestrial mammal species including Harris' antelope squirrel, kit fox, little pocket mouse, and Yuma hispid cotton rat, particularly individuals that

may be sheltering in underground burrows instead of fleeing. Project construction could cause behavior changes, as individuals would be expected to flee from an increase of noise, vibration, and human presence within the Project vicinity. These behavior changes could increase depredation, decrease foraging success, reduce reproductive success, and result in loss of fitness for that individual from increased metabolic output. Noise, vibration, and human presence would be temporary during construction and would cease with completion of construction.

The loss and degradation of mammal habitat from short-and long-term Project activities would be minor as abundant habitat for small mammals occurs in the vicinity of the Project and Study Areas. Similarly, because of the available habitat outside the Project Area, any loss of vegetation from construction activities would not contribute meaningfully to habitat fragmentation for special-status mammals, or decrease connectivity between habitat patches. Construction of the Project would result in an increase of fugitive dust. The fugitive dust during construction could change mammal behavior (e.g., reducing the amount of foraging). The likelihood and severity of impacts from construction would decrease with increasing distance from the Project Area.

SPECIAL-STATUS BIRD SPECIES

Golden eagles may forage in the Project and Study Areas, but no nesting habitat is present. Due to the relatively small area of foraging habitat potentially impacted compared with an individual golden eagle's home range and the abundance of similar foraging habitat outside of the Project Area, no significant impacts to golden eagles resulting from the Project would be expected. Bald eagles may occur within the Study Area during the non-breeding season; however, they would be drawn toward the Colorado River riparian areas approximately 10 miles west of the Project Area and not toward the Project Area. Thus, no impacts to bald eagles resulting from the Project would be expected.

Two bird species (see Table C-2) occur in the vicinity of the Project only for wintering or migration and therefore have no potential for nesting impacts.

Potential impacts to special-status bird species could include changes in behavior due to Project-related noise, vibration, and the presence of workers and equipment; loss of breeding and foraging habitat; and impacts to nesting species. Potential impacts to nesting birds and their eggs covered under the MBTA, including burrow nests of the western burrowing owl, would be avoided and/or minimized either by limiting ground-clearing/vegetation removal activities to outside the breeding season (generally March to September with raptors breeding generally January to June) or through surveys to identify active nests and placement of buffers around those active nests until the young fledge or the nest fails.

Transmission lines can pose a collision risk to birds, including raptors (Avian Power Line Interaction Committee [APLIC] 2012). However, many factors influence whether birds are likely to collide with a specific transmission line. To minimize that risk, the Applicant will design the Project to incorporate reasonable measures to minimize electrocution of and impacts to avian species. Such measures will be accomplished through incorporation of APLIC guidelines set forth in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) and *Reducing Avian Collisions with Power Lines: the State of the Art in 2012* (APLIC 2012).

Transmission and distribution lines can also cause bird electrocution, although the risk is highest with lower-voltage lines. Electrocution occurs when a bird simultaneously contacts energized and grounded electrical components. High-voltage lines require spacing between those components that cannot be spanned even by very large birds. so that electrocution risk is precluded almost entirely (APLIC 2012).

SPECIAL-STATUS REPTILE SPECIES

Potential Project-related impacts on special-status reptile species including FTHL would include changes in behavior due to the presence of workers and equipment, including moving away from sources of noise and vibration; the potential for individuals being crushed or buried during ground-disturbing activities; the loss of habitat; and increased predation due to an increase in perches provided by the additional power poles to be installed.

Densities of some predators are elevated at or near agricultural lands. Relatively high densities of predators (e.g., round-tailed ground squirrel [*Xerospermophilus tereticaudus*], common raven [*Corvus corax*], greater roadrunner [*Geococcyx californianus*], American kestrel, burrowing owl, and loggerhead shrike) appear to result in elevated predation on FTHLs in adjacent undeveloped lands (Piest, Wong, Young, pers. obs.) in the BMGR INRMP 2018 Update (CEMML 2018).

The additional transmission structures that would be installed for the Gen-Tie would also increase potential perching locations for predators of FTHL beyond the existing perches present on existing power poles along the alignment. Birds such as loggerhead shrikes and burrowing owls observed in the Study Area that are predators of FTHL could utilize the additional poles as perches for hunting, potentially leading to increased predation of the species. However, there are numerous existing poles in the Gen-Tie alignment.

Thus, FTHL is known to occur in the Study Area and may occur in the Project Area. As such, the Project may impact individuals but is not likely to result in a trend toward federal listing or loss of viability.

SPECIAL-STATUS AMPHIBIAN SPECIES

One special-status amphibian species may occur within the Study Area: Sonoran Desert toad. Because this species is unlikely to occur in the Project Area, impacts from construction would not be expected to occur to this species. Potential impacts arising from behavior changes due to noise, vibration, and the presence of workers would be similar to those described for terrestrial mammals. Potential impacts from the fragmentation of amphibian habitat from Project activities would be the same as those described for terrestrial mammals.

SPECIAL-STATUS FISH SPECIES

There are currently no special-status fish species known or expected to occur within the Study Area. The Project would have no impact on special-status fish species because no habitat for special-status fish species is present in the Project Area. Project activities would not impact perennial water outside of the Study Area.

State-Protected Native Plants

Plant species protected under the ANPL could be removed during the Project's vegetation-clearing activities. No Highly Safeguarded plant species, or any other rare plant species, are likely to be present in the Project or Study Areas. The Project involves work in an area largely undisturbed by development containing native desert vegetation. Although field surveys in the Study Area (immediately south of the Gen-Tie route along County 19th Street) indicated that State-protected native plants did not occur, the Project Area on BMGR is within the range of ANPL protected species, which may occur. Therefore, the loss of vegetation within the Project Area may result in minor impacts to protected native plants, if any occur.

Noxious Weeds

Measures will be taken to avoid introducing or spreading noxious weeds in the Project area, and therefore the Project would be unlikely to contribute to an increase of noxious weeds, in extent or abundance, in the vicinity of the Project.

Mitigation Measures

The following mitigation measures would reduce the potential for impacts to special-status species as a result of the Project:

- Transmission lines pose a risk of collisions and electrocution for birds, particularly raptors. To minimize that risk, the Applicant will design the Project's interconnection facilities to incorporate reasonable measures to minimize electrocution of and impacts to avian species following the guidelines outlined in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012).
- If vegetation-disturbing activities are planned during the migratory bird nesting season (March–September or January–June for raptors), measures to avoid any active bird nests within the Project Area, such as preconstruction surveys for migratory bird nests by a qualified biologist, should be taken to maintain compliance with the MBTA since suitable nesting habitat for migratory bird species is present in the Project Area.
- If western burrowing owls are identified in the Project Area, measures to avoid any active burrows should be taken. Because some burrowing owls are year-round residents, surveys for this species should be conducted prior to initiation of ground disturbance and vegetation removal activities.
- If native plants listed under the ANPL are present in the Project Area, the ADA Notice of Intent to Clear Land should be submitted prior to ground clearing. The submittal time frame depends on the acreage of the area to be cleared, as noted on the form. No ANPL-protected plants were observed during surveys; however, as the BMGR portion of the Project Area was not surveyed, it is possible that there are protected plants in that area.
- To reduce or eliminate the potential to introduce or spread noxious or invasive plants, equipment should be cleaned prior to and following mobilizing to the Project Area.
- For the portion of the Gen-Tie that is on the BMGR, the Applicant will coordinate with Arizona Game and Fish Department and the Department of the Navy as part of the NEPA process and will implement any potential mitigation measures deemed necessary under that process.

Conclusion

The proposed Project is not likely to significantly affect any rare, endangered, or special-status species. No ESA-listed species are present in the Project Area or Study Area, and none would be affected by the proposed Project. One candidate species, the monarch butterfly, may occur as a seasonal disperser, and only minor impacts to individuals would be expected to occur.

The Project has the potential to have minor impacts on non-ESA listed special-status amphibian, bird, reptile, and mammal species. Impacts to the FTHL would be minor, and mitigation measures to reduce impacts would be used.

The risk that electrical infrastructure poses to birds would be addressed by following standard guidelines as design features for the Project, and preconstruction surveys for migratory bird nests would aid in compliance with the MBTA. The Study Area partially overlaps the eastern edge of the FTHL Yuma Desert MA. However, construction will occur outside of the MA, and impacts to the functioning MA would be limited to the potential for increased predation due to additional perches from the power poles. The risk that electrical infrastructure poses to birds would be addressed by following standard guidelines as design features for the Project, and preconstruction surveys for migratory bird nests would aid in compliance with the MBTA.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arizona Ecological Services Field Office
9828 North 31st Ave
#C3
Phoenix, AZ 85051-2517
Phone: (602) 242-0210 Fax: (602) 242-2513



In Reply Refer To:
Project Code: 2023-0005829
Project Name: Orchard Solar CEC Gen-Tie Study Area

October 18, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The Fish and Wildlife Service (Service) is providing this list under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The list you have generated identifies threatened, endangered, proposed, and candidate species, and designated and proposed critical habitat, that *may* occur within the One-Range that has been delineated for the species (candidate, proposed, or listed) and its critical habitat (designated or proposed) with which your project polygon intersects. These range delineations are based on biological metrics, and do not necessarily represent exactly where the species is located. Please refer to the species information found on ECOS to determine if suitable habitat for the species on your list occurs in your project area.

The purpose of the Act is to provide a means whereby threatened and endangered species and the habitats upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect federally listed species and/or designated critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If the Federal action agency determines that listed species or critical habitat *may be affected* by a federally funded, permitted or authorized activity, the agency must consult with us pursuant to 50 CFR 402. Note that a "may affect" determination includes effects that may not be adverse and that may be beneficial, insignificant, or discountable. An effect exists even if only one individual

Exhibit C-1a. U.S. Fish and Wildlife Service IPaC Report.

or habitat segment may be affected. The effects analysis should include the entire action area, which often extends well outside the project boundary or "footprint." For example, projects that involve streams and river systems should consider downstream affects. If the Federal action agency determines that the action may jeopardize a *proposed* species or may adversely modify *proposed* critical habitat, the agency must enter into a section 7 conference. The agency may choose to confer with us on an action that may affect proposed species or critical habitat.

Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event they become proposed or listed prior to project completion. More information on the regulations (50 CFR 402) and procedures for section 7 consultation, including the role of permit or license applicants, can be found in our Endangered Species Consultation Handbook at: <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>.

We also advise you to consider species protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712) and the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668 *et seq.*). The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when authorized by the Service. The Eagle Act prohibits anyone, without a permit, from taking (including disturbing) eagles, and their parts, nests, or eggs. Currently 1,026 species of birds are protected by the MBTA, including the western burrowing owl (*Athene cunicularia hypugaea*). Protected western burrowing owls can be found in urban areas and may use their nest/burrows year-round; destruction of the burrow may result in the unpermitted take of the owl or their eggs.

If a bald eagle or golden eagle nest occurs in or near the proposed project area, our office should be contacted for Technical Assistance. An evaluation must be performed to determine whether the project is likely to disturb or harm eagles. The National Bald Eagle Management Guidelines provide recommendations to minimize potential project impacts to bald eagles (see <https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/eagles.php> and <https://www.fws.gov/birds/management/managed-species/eagle-management.php>).

The Division of Migratory Birds (505/248-7882) administers and issues permits under the MBTA and Eagle Act, while our office can provide guidance and Technical Assistance. For more information regarding the MBTA, BGEPA, and permitting processes, please visit the following web site: <https://www.fws.gov/birds/management.php>. Guidance for minimizing impacts to migratory birds for communication tower projects (e.g. cellular, digital television, radio, and emergency broadcast) can be found at <https://www.fws.gov/migratorybirds/pdf/management/usfwscommtowerguidance2016update.pdf>.

The U.S. Army Corps of Engineers (Corps) may regulate activities that involve streams (including some intermittent streams) and/or wetlands. We recommend that you contact the Corps to determine their interest in proposed projects in these areas. For activities within a National Wildlife Refuge, we recommend that you contact refuge staff for specific information

Exhibit C-1b. U.S. Fish and Wildlife Service IPaC Report

about refuge resources, please visit <https://www.fws.gov/southwest/refuges/> to locate the refuge you would be working in or around.

If your action is on tribal land or has implications for off-reservation tribal interests, we encourage you to contact the tribe(s) and the Bureau of Indian Affairs (BIA) to discuss potential tribal concerns, and to invite any affected tribe and the BIA to participate in the section 7 consultation. In keeping with our tribal trust responsibility, we will notify tribes that may be affected by proposed actions when section 7 consultation is initiated. For more information, please contact our Tribal Coordinator, John Nystedt, at 928/556-2160 or John_Nystedt@fws.gov.

We also recommend you seek additional information and coordinate your project with the Arizona Game and Fish Department. Information on known species detections, special status species, and Arizona species of greatest conservation need, such as the western burrowing owl and the Sonoran desert tortoise (*Gopherus morafkai*) can be found by using their Online Environmental Review Tool, administered through the Heritage Data Management System and Project Evaluation Program (<https://www.azgfd.com/wildlife/planning/projevalprogram/>).

We appreciate your concern for threatened and endangered species. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office. If we may be of further assistance, please contact our Flagstaff office at 928/556-2157 for projects in northern Arizona, our general Phoenix number 602/242-0210 for central Arizona, or 520/670-6144 for projects in southern Arizona.

Sincerely,
/s/

Mark A. Lamb
Acting Field Supervisor
Attachment

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Exhibit C-1c. U.S. Fish and Wildlife Service IPaC Report.

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arizona Ecological Services Field Office

9828 North 31st Ave

#c3

Phoenix, AZ 85051-2517

(602) 242-0210

Exhibit C-1d. U.S. Fish and Wildlife Service IPaC Report.

Project Summary

Project Code: 2023-0005829

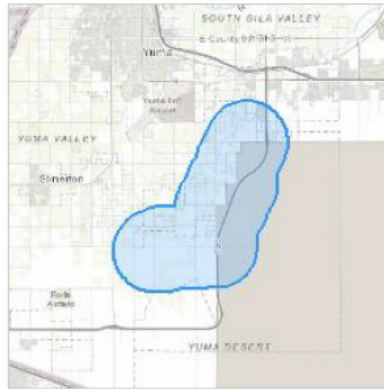
Project Name: Orchard Solar CEC Gen-Tie Study Area

Project Type: Distribution Line - New Construction - Above Ground

Project Description: Study Area for new Gen Tie

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@32.58825295,-114.55453360031339,14z>



Counties: Yuma County, Arizona

Exhibit C-1e. U.S. Fish and Wildlife Service IPaC Report.

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Sonoran Pronghorn <i>Antilocapra americana sonoriensis</i> Population: U.S.A. (AZ), Mexico No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4750	Experimental Population, Non-Essential

Birds

NAME	STATUS
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened
Yuma Ridgway's Rail <i>Rallus obsoletus yumanensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3505	Endangered

Exhibit C-1f. U.S. Fish and Wildlife Service IPaC Report

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Candidate

No critical habitat has been designated for this species.

Species profile: <https://ecos.fws.gov/ecp/species/9743>**Critical habitats**

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Exhibit C-1g. U.S. Fish and Wildlife Service IPaC Report.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Exhibit C-1h. U.S. Fish and Wildlife Service IPaC Report

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Costa's Hummingbird <i>Calypte costae</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9470	Breeds Jan 15 to Jun 10
Gila Woodpecker <i>Melanerpes uropygialis</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5960	Breeds Apr 1 to Aug 31

Exhibit C-1i. U.S. Fish and Wildlife Service IPaC Report.

NAME	BREEDING SEASON
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Marbled Godwit <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Mountain Plover <i>Charadrius montanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3638	Breeds elsewhere
Western Grebe <i>aechmophorus occidentalis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

Exhibit C-1j. U.S. Fish and Wildlife Service IPaC Report

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

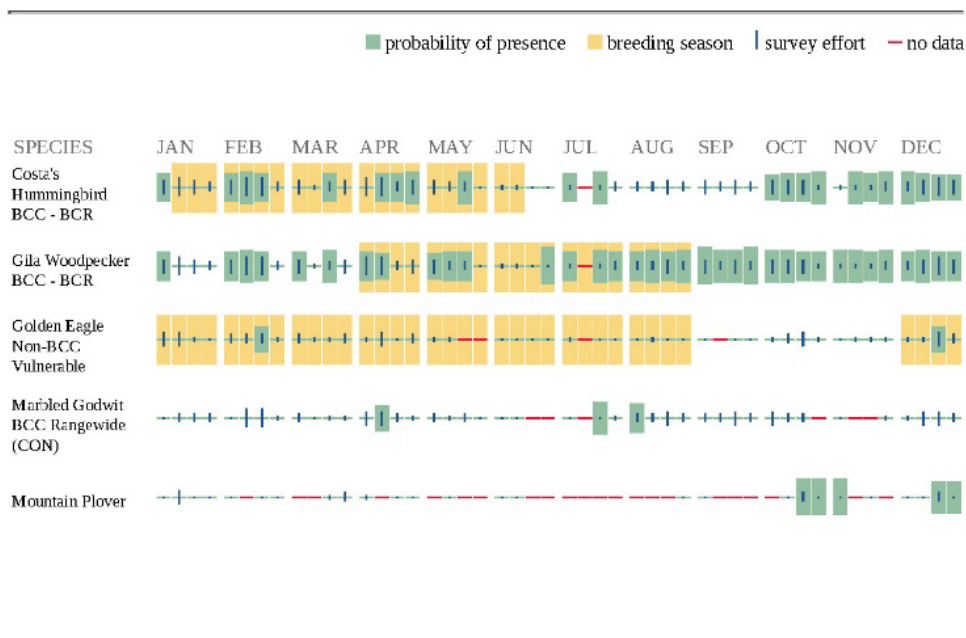
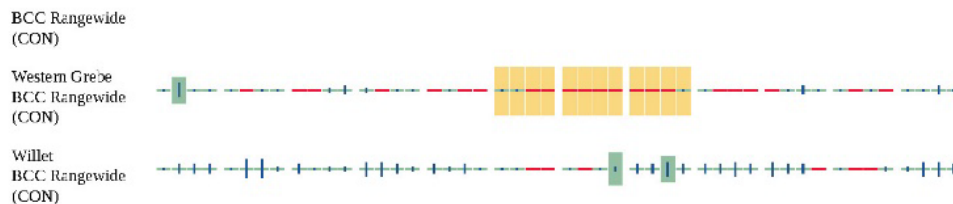


Exhibit C-1k. U.S. Fish and Wildlife Service IPaC Report.



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list

Exhibit C-11. U.S. Fish and Wildlife Service IPaC Report

of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical](#)

Exhibit C-1m. U.S. Fish and Wildlife Service IPaC Report.

[Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Exhibit C-1n. U.S. Fish and Wildlife Service IPaC Report

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- [Riverine](#)

FRESHWATER POND

- [Palustrine](#)

Exhibit C-1o. U.S. Fish and Wildlife Service IPaC Report.

IPaC User Contact Information

Agency: SWCA
Name: Stacy Campbell
Address: 343 West Franklin Street
City: Tucson
State: AZ
Zip: 85701
Email: scampbell@swca.com
Phone: 5203259194

Arizona Environmental Online Review Tool Report



Arizona Game and Fish Department Mission

To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:

Orchard Solar Project CEC Area

Project Description:

Gen-tie corridor

Project Type:

Energy Storage/Production/Transfer, Energy Production (generation), photovoltaic solar facility (new)

Contact Person:

Jeff Johnson

Organization:

SWCA Environmental Consultants

On Behalf Of:

PRIVATE

Project ID:

HGIS-17493

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Exhibit C-2a. AZGFD Online Environmental Review Tool Results.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Department's review of site-specific projects.
3. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HabiMap Arizona data, specifically Species of Greatest Conservation Need (SGCN) under our State Wildlife Action Plan (SWAP) and Species of Economic and Recreational Importance (SERI), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

Locations Accuracy Disclaimer:

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

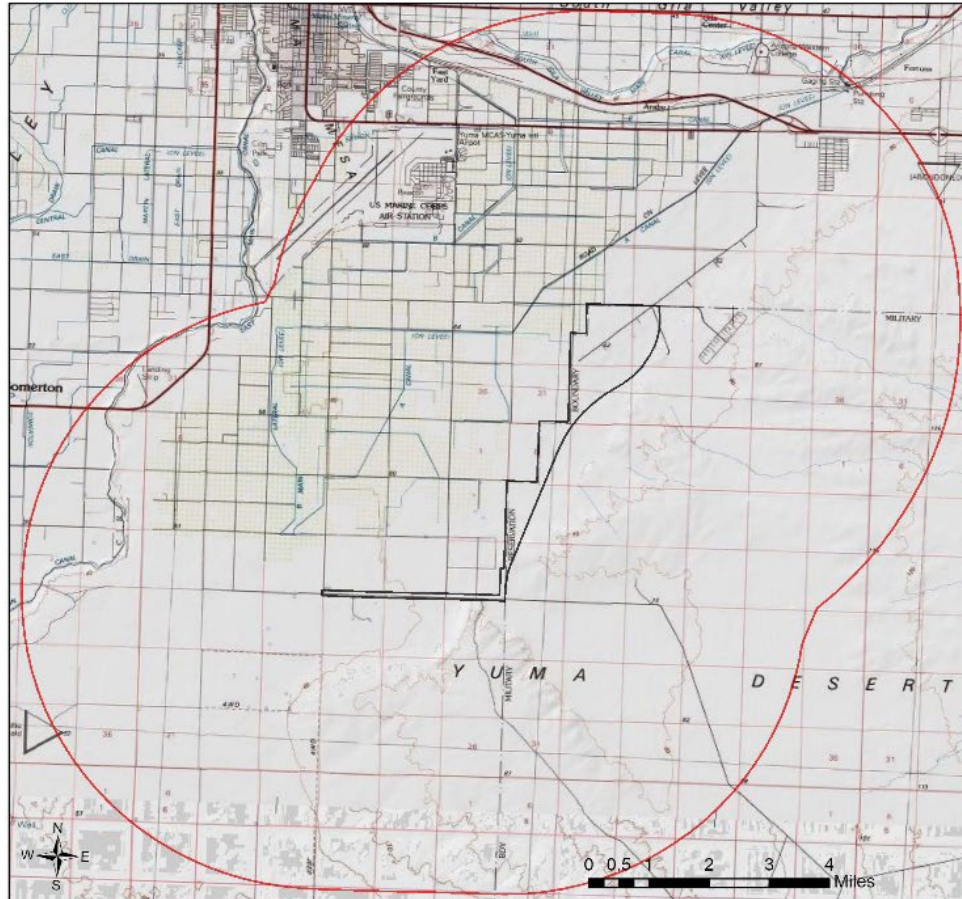
Exhibit C-2b. AZGFD Online Environmental Review Tool Results.



Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366
Or
PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.

Exhibit C-2c. AZGFD Online Environmental Review Tool Results.

Orchard Solar Project CEC Area
USA Topo Basemap With Locator Map



-  Buffered Project Boundary
-  Project Boundary

Project Size (acres): 2,039.75

Lat/Long (DD): 32.6079 / -114.5445

County(s): Yuma

AGFD Region(s): Yuma

Township/Range(s): T10S, R22W; T10S, R23W; T9S, R22W

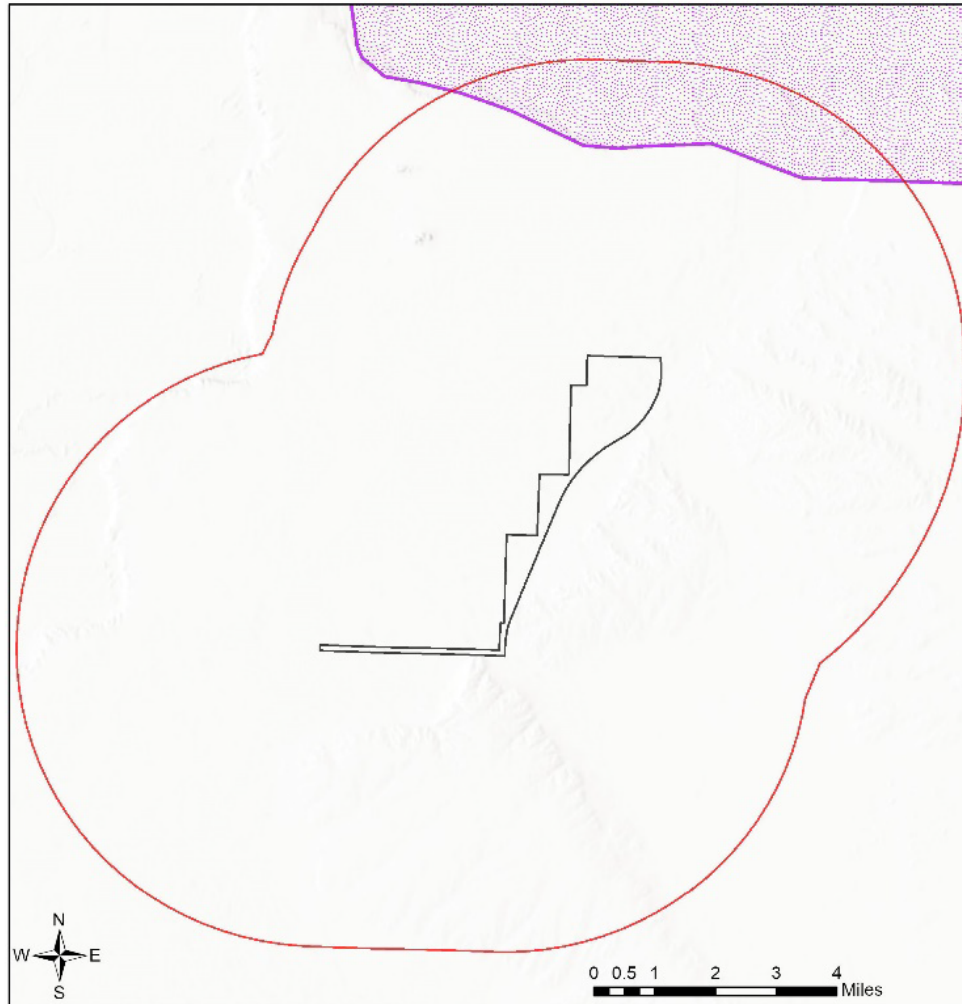
USGS Quad(s): YUMA EAST; YUMA SE

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community



Exhibit C-2d. AZGFD Online Environmental Review Tool Results.

Orchard Solar Project CEC Area
Web Map As Submitted By User



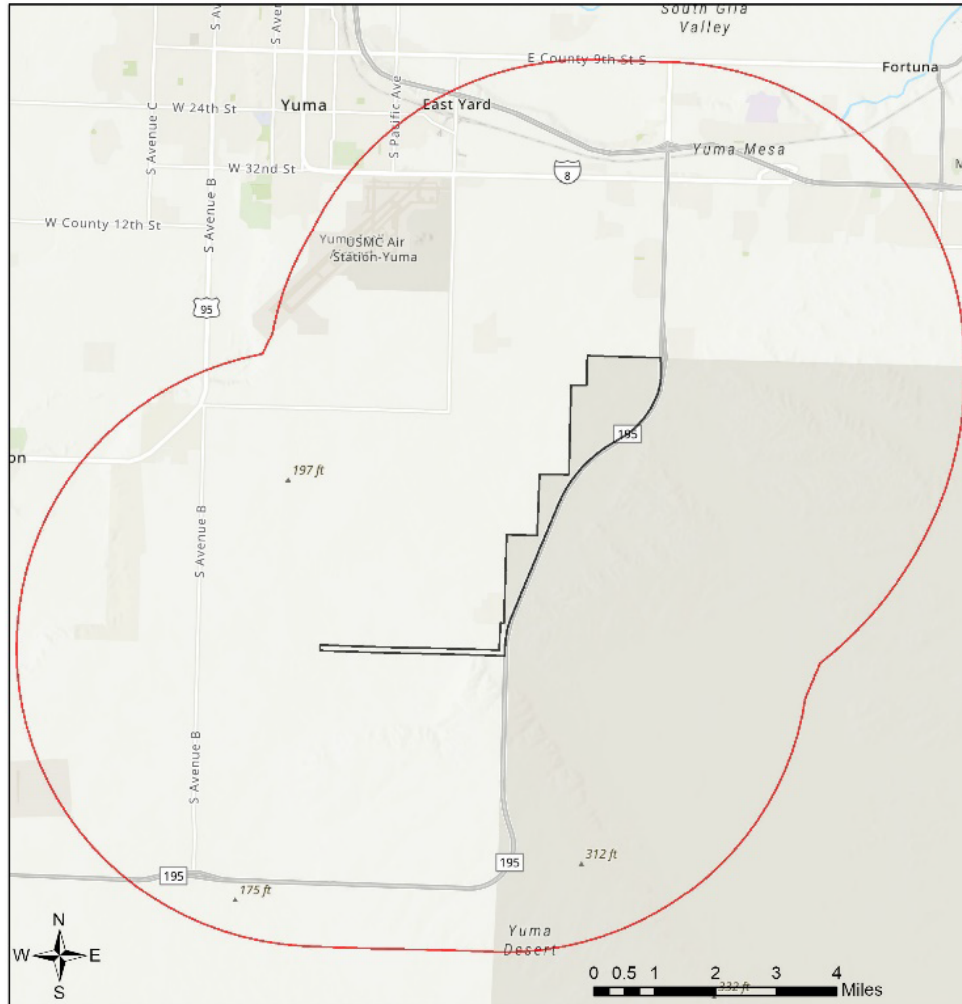
- Critical Habitat
- Important Bird Areas
- Special Areas
- Buffered Project Boundary
- Project Boundary

Project Size (acres): 2,039.75
Lat/Long (DD): 32.6079 / -114.5445
County(s): Yuma
AGFD Region(s): Yuma
Township/Range(s): T10S, R22W; T10S, R23W; T9S, R22W
USGS Quad(s): YUMA EAST; YUMA SE

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

Exhibit C-2e. AZGFD Online Environmental Review Tool Results.

Orchard Solar Project CEC Area Important Areas



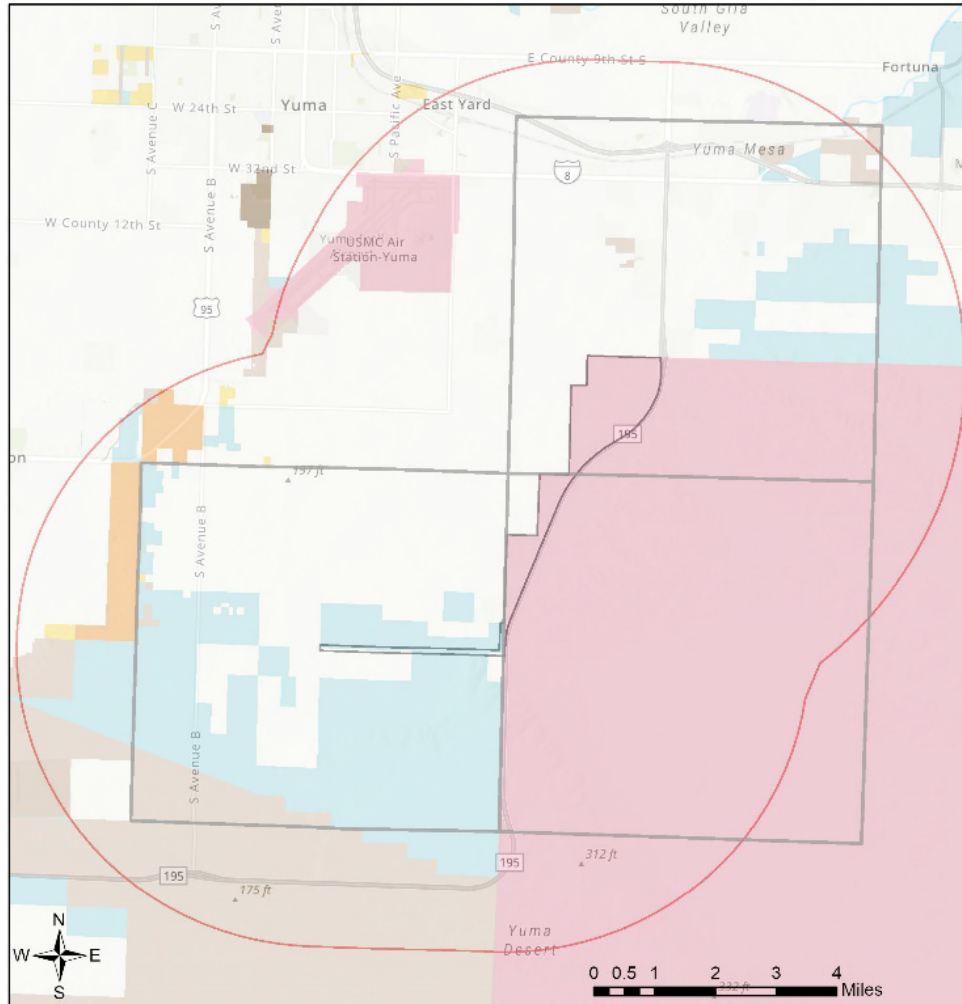
- Buffered Project Boundary
- Project Boundary
- Important Bird Areas
- Critical Habitat
- Pinal County Riparian
- Important Connectivity Zones
- Wildlife Connectivity

Project Size (acres): 2,039.75
Lat/Long (DD): 32.6079 / -114.5445
County(s): Yuma
AGFD Region(s): Yuma
Township/Range(s): T10S, R22W; T10S, R23W; T9S, R22W
USGS Quad(s): YUMA EAST; YUMA SE

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community
Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Exhibit C-2f. AZGFD Online Environmental Review Tool Results.

Orchard Solar Project CEC Area Township/Ranges and Land Ownership



- Buffered Project Boundary
- Project Boundary
- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State & Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge
- Township/Ranges

Project Size (acres): 2,039.75
 Lat/Long (DD): 32.6079 / -114.5445
 County(s): Yuma
 AGFD Region(s): Yuma
 Township/Range(s): T10S, R22W; T10S, R23W; T9S, R22W
 USGS Quad(s): YUMA EAST; YUMA SE

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodetstijnsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community
 Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Exhibit C-2g. AZGFD Online Environmental Review Tool Results.

Special Status Species Documented within 5 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
<i>Antilocapra americana sonoriensis</i>	Sonoran Pronghorn	LE		S		1A
<i>Athene cunicularia hypugaea</i>	Western Burrowing Owl	SC	S	S		1B
<i>Chionactis annulata</i>	Resplendent Shovel-nosed Snake					1C
<i>Helianthus niveus ssp. tephrodes</i>	Algodones Sunflower	SC				
<i>Phrynosoma goodei</i>	Goode's Horned Lizard					1B
<i>Phrynosoma mcallii</i>	Flat-tailed Horned Lizard	CCA		S		1A
<i>Triteleopsis palmeri</i>	Blue Sand Lily			S	SR	
<i>Uma rufopunctata</i>	Yuman Desert Fringe-toed Lizard	SC		S		1B

Note: Status code definitions can be found at <https://www.azgfd.com/wildlife/planning/wildlife-guidelines/status-definitions/>.

No Special Areas Detected

No special areas were detected within the project vicinity.

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
<i>Aix sponsa</i>	Wood Duck					1B
<i>Ammospermophilus harrisi</i>	Harris' Antelope Squirrel					1B
<i>Anthus spragueii</i>	Sprague's Pipit	SC				1A
<i>Athene cunicularia hypugaea</i>	Western Burrowing Owl	SC	S	S		1B
<i>Botaurus lentiginosus</i>	American Bittern					1B
<i>Buteo regalis</i>	Ferruginous Hawk	SC		S		1B
<i>Calypte costae</i>	Costa's Hummingbird					1C
<i>Charadrius montanus</i>	Mountain Plover	SC				1B
<i>Cistothorus palustris</i>	Marsh Wren					1C
<i>Colaptes chrysoides</i>	Gilded Flicker			S		1B
<i>Corynorhinus townsendii pallescens</i>	Pale Townsend's Big-eared Bat	SC	S	S		1B
<i>Crotaphytus nebrius</i>	Sonoran Collared Lizard					1B
<i>Euderma maculatum</i>	Spotted Bat	SC	S	S		1B
<i>Eumops perotis californicus</i>	Greater Western Bonneted Bat	SC		S		1B
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC, BGA	S	S		1A
<i>Heloderma suspectum</i>	Gila Monster					1A
<i>Inciilius alvarius</i>	Sonoran Desert Toad					1B
<i>Melanerpes uropygialis</i>	Gila Woodpecker					1B
<i>Melospiza lincolni</i>	Lincoln's Sparrow					1B
<i>Melospiza aberti</i>	Abert's Towhee		S			1B
<i>Myiarchus tyrannulus</i>	Brown-crested Flycatcher					1C
<i>Myotis occultus</i>	Arizona Myotis	SC		S		1B

Exhibit C-2h. AZGFD Online Environmental Review Tool Results.

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
<i>Nyctinomops femorosaccus</i>	Pocketed Free-tailed Bat					1B
<i>Oreothlypis luciae</i>	Lucy's Warbler					1C
<i>Passerculus sandwichensis</i>	Savannah Sparrow					1B
<i>Perognathus longimembris</i>	Little Pocket Mouse	No Status				1B
<i>Phrynosoma goodei</i>	Goode's Horned Lizard					1B
<i>Phrynosoma mcallii</i>	Flat-tailed Horned Lizard	CCA		S		1A
<i>Rallus obsoletus yumanensis</i>	Yuma Ridgway's Rail	LE				1A
<i>Sigmodon hispidus eremicus</i>	Yuma Hispid Cotton Rat	SC				1B
<i>Sphyrapicus nuchalis</i>	Red-naped Sapsucker					1C
<i>Spizella breweri</i>	Brewer's Sparrow					1C
<i>Toxostoma lecontei</i>	LeConte's Thrasher			S		1B
<i>Troglodytes pacificus</i>	Pacific Wren					1B
<i>Uma rufopunctata</i>	Yuman Desert Fringe-toed Lizard	SC		S		1B
<i>Vulpes macrotis</i>	Kit Fox	No Status				1B

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
<i>Callipepla gambelii</i>	Gambel's Quail					
<i>Phasianus colchicus</i>	Ring-necked Pheasant					
<i>Zenaida asiatica</i>	White-winged Dove					
<i>Zenaida macroura</i>	Mourning Dove					

Project Type: Energy Storage/Production/Transfer, Energy Production (generation), photovoltaic solar facility (new)

Project Type Recommendations:

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at: <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

Exhibit C-2i. AZGFD Online Environmental Review Tool Results.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. See the Arizona Department of Agriculture website for a list of prohibited and restricted noxious weeds at <https://www.invasivespeciesinfo.gov/unitedstates/az.shtml> and the Arizona Native Plant Society <https://aznps.com/invas> for recommendations on how to control. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives - a national cloud-based application for tracking and managing invasive species at <https://imap.natureserve.org/imap/services/page/map.html>.

- To build a list: zoom to your area of interest, use the identify/measure tool to draw a polygon around your area of interest, and select "See What's Here" for a list of reported species. To export the list, you must have an account and be logged in. You can then use the export tool to draw a boundary and export the records in a csv file.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

For any powerlines built, proper design and construction of the transmission line is necessary to prevent or minimize risk of electrocution of raptors, owls, vultures, and golden or bald eagles, which are protected under state and federal laws. Limit project activities during the breeding season for birds, generally March through late August, depending on species in the local area (raptors breed in early February through May). Conduct avian surveys to determine bird species that may be utilizing the area and develop a plan to avoid disturbance during the nesting season. For underground powerlines, trenches should be covered or back-filled as soon as possible. Incorporate escape ramps in ditches or fencing along the perimeter to deter small mammals and herpetofauna (snakes, lizards, tortoise) from entering ditches. In addition, indirect effects to wildlife due to construction (timing of activity, clearing of rights-of-way, associated bridges and culverts, affects to wetlands, fences) should also be considered and mitigated.

Based on the project type entered, coordination with State Historic Preservation Office may be required (<https://azstateparks.com/>).

Based on the project type entered, coordination with U.S. Fish and Wildlife Service (Migratory Bird Treaty Act) may be required (<https://www.fws.gov/office/arizona-ecological-services>).

Exhibit C-2j. AZGFD Online Environmental Review Tool Results.

Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly at PEP@azgfd.gov.

Project Location and/or Species Recommendations:

HDMS records indicate that one or more native plants listed on the Arizona Native Plant Law and Antiquities Act have been documented within the vicinity of your project area. Please contact

Arizona Department of Agriculture

1688 W Adams St.

Phoenix, AZ 85007

Phone: 602.542.4373

<https://agriculture.az.gov/sites/default/files/Native%20Plant%20Rules%20-%20AZ%20Dept%20of%20Ag.pdf> starts on page 44

HDMS records indicate that one or more Listed, Proposed, or Candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at <https://www.fws.gov/office/arizona-ecological-services> or:

Phoenix Main Office

9828 North 31st Avenue #C3

Phoenix, AZ 85051-2517

Phone: 602-242-0210

Fax: 602-242-2513

Tucson Sub-Office

201 N. Bonita Suite 141

Tucson, AZ 85745

Phone: 520-670-6144

Fax: 520-670-6155

Flagstaff Sub-Office

SW Forest Science Complex

2500 S. Pine Knoll Dr.

Flagstaff, AZ 86001

Phone: 928-556-2157

Fax: 928-556-2121

HDMS records indicate that Western Burrowing Owls have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at:

<https://www.azgfd.com/wildlife/speciesofgreatestconcern/burrowingowlmanagement/>

Exhibit C-2k. AZGFD Online Environmental Review Tool Results.

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EXHIBIT D. BIOLOGICAL RESOURCES

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

List the fish, wildlife, plant life, and associated forms of life in the vicinity of the proposed site or route and describe the effects, if any, the proposed facilities will have thereon.

Introduction

To identify the plant and wildlife species that may occur in the vicinity of the proposed Project, SWCA Environmental Consultants (SWCA) consulted publicly available data sources, including the following:

- Topographical and aerial maps
- Arizona Game and Fish Department (AGFD) Online Environmental Review Tool (AGFD 2022a)
- *Biotic Communities: Southwestern United States and Northwestern Mexico* (Brown 1994)
- Regional checklists, reports, and publications (e.g., Brennan and Holycross 2006; eBird 2022; Hoffmeister 1986; iNaturalist 2022; Kesner and Marsh 2010)

In August, 2022, an SWCA biologist with expertise in the biology of flora and fauna of the region surveyed portions of the Study Area immediately south of East County 19th Street, including the segment of the CEC corridor South of East County 19th Street between Avenue 1 ½ E and the aggregate mining facility at the corner of East County 19th Street and SR 195. Publicly available information was used to describe potential conditions in the Barry M. Goldwater Range (BMGR) portion of the Project Area. Sources used include the Barry M. Goldwater Range Integrated Natural Resources Management Plan, August 2018 Update (Colorado State University Center for Environmental Management of Military Lands 2018) and the Vegetation of the Barry M. Goldwater Range West, Marine Corps Air Station—Yuma, Arizona (Malusa and Sundt 2015).

All plant and wildlife species observed in the Study Area during related surveys in June, July, and August 2022 were recorded. The site was assessed to determine if habitat features for species protected under federal, state, or local regulations were present in the Project Area and Study Area.

Results

Ecological Setting

The Project Area and Study Area are located within the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Brown 1994) at elevations ranging from approximately 186 to 296 feet above mean sea level (amsl) approximately 7 miles directly north of the international border with Mexico and 6.5 miles south of the Yuma International Airport. Land uses in the Study Area include active or inactive agriculture fields with a few residential and agricultural structures. The Project Area and Study Area are flat to open topography; the only known water feature in the Study Area, but outside the Project Area, is an active mining pit that collects water. It is located in the vicinity of an approximately 70-acre

mining area in the southern portion of the Study Area. Outside the Project Area, there is active and inactive agricultural land to the north, south, and west. The BMGR consists of vast open range with sparse vegetation present to the east of the Project Area on BMGR. The Study Area is interspersed with rural residential, agricultural, and industrial development.

Vegetation

Portions of the Project Area have been disturbed for roads and the existing 69 kV Western Area Power Administration (WAPA) transmission line. Other portions of the Project Area are Sonoran desertscrub dominated by white bursage (*Ambrosia dumosa*) and/or creosote bush (*Larrea tridentata*) with fourwing saltbush (*Atriplex canescens*) and large bare areas and sandy soils. No non-native species were observed in the portions of the Study Area that were surveyed.

Within the Study Area, most vegetation outside of desertscrub areas is agricultural or planted as landscaping. The agricultural areas were planted in alfalfa (*Medicago sativa*), with the non-native Bermudagrass (*Cynodon dactylon*) and prickly Russian thistle (*Salsola tragus*) growing in and around the edges of the alfalfa fields. Little hogweed (*Portulaca oleracea*) was also observed in the Study Area. One noxious weed species, saltcedar (*Tamarix ramosissima*) is present in the Study Area. Saltcedar is listed as a Class C noxious weed species by the ADA under Arizona Administrative Code R3-4-245. Class C noxious weeds are plants that are widespread and may be recommended for active control based on risk assessment. Small saltcedar individuals were present in an isolated and confined portion of the 70-acre mining pit in the southern portion of the Study Area.

Landscape plants present include Washington fan palm (*Washingtonia robusta*), oleander (*Nerium oleander*), pine (*Pinus* sp.), weeping fig (*Ficus benjamina*), and gum (*Eucalyptus* sp.).

The desertscrub areas within the Study Area are similar to those described above for the Project Area, with similar species expected.

No broadleaf deciduous riparian vegetation communities (i.e., communities containing willow [*Salix* sp.], cottonwood [*Populus* sp.], or ash [*Fraxinus* sp.], etc.), were observed during surveys of the Study Area and in the surveyed portion of the Project Area.

Wildlife Species

Bird species observed in the portion of the Study Area during surveys included Gila woodpecker (*Melanerpes uropygialis*), great-tailed grackle (*Quiscalus mexicanus*), house finch (*Haemorhous mexicanus*), horned lark (*Eremophila alpestris*), mourning dove (*Zenaida macroura*), white-winged dove (*Z. asiatica*), Eurasian collared dove (*Streptopelia decaocto*), tree swallow (*Tachycineta bicolor*), loggerhead shrike (*Lanius ludovicianus*), western burrowing owl (*Athene cunicularia hypugaea*), American kestrel (*Falco sparverius*), turkey vulture (*Cathartes aura*), and white-faced ibis (*Plegadis chihi*). Gila woodpecker and western burrowing owl are addressed in Exhibit C.

Flat-tailed horned lizard (*Phrynosoma mcallii*) was observed in the Study Area. This species is addressed in Exhibit C.

Habitat for bat species or potential bat roost sites (abandoned buildings, or palm trees) is present in the Study Area.

Species that may occur in the Study Area are listed in Table D-1 (mammals), Table D-2 (birds), Table D-3 (reptiles), and Table D-4 (amphibians). Species were considered for their potential to occur as

follows. A list of mammal species typical of Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community evaluated for this report included mammals found in Table 4.1 of *Mammals of Arizona* (Hoffmeister 1986). Bird species evaluated in this report include those listed for Sonoran Desertscrub in Appendix II of *Biotic Communities Southwestern United States and Northwestern Mexico* (Brown 1994) and a list of Sonoran Desert Birds in iNaturalist (2022). Reptiles and amphibians evaluated in this report were taken from a list of commonly occurring species in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community in *Amphibians and Reptiles in Arizona* (Brennan and Holycross 2006). Finally, fish species evaluated in this report were taken from the list of species in the Central Arizona Project and Florence-Casa Grande Canals from the *Central Arizona Project Fish Monitoring Final Annual Report* (Kesner and Marsh 2010)

Some species from these lists of typical species overlap with special-status species evaluated in Exhibit C, and these species have been removed from consideration in Exhibit D because they have already been addressed. Occurrence records were obtained from the AGFD Online Environmental Review Tool (AGFD 2022a), *Mammals of Arizona* (Hoffmeister 1986), eBird (2022), and the *Breeding Bird Atlas* (Corman and Wise-Gervais 2005).

MAMMALS

Small and medium-sized terrestrial mammal species may occur in the Project Area and Study Area. Bat species have the potential to disperse or migrate through or forage within the Project Area and Study Area. Palm trees and abandoned buildings were not observed in the portions of the Study Area adjacent to the proposed Gen-Tie alignment; however, these types of potential bat roosts do occur in the Study Area (Google Earth 2022). Special-status bat species are addressed in Exhibit C.

Table D-1. Mammal Species that May Occur in the Study Area

Common Name (Scientific Name)	Habitat
Arizona pocket mouse (<i>Perognathus amplus</i>)	Found in desertscrub habitats.
Black-tailed jackrabbit (<i>Lepus californicus</i>)	Occurs in open habitat with scattered patches of shrubs, including plains, fields, and deserts.
Botta's pocket gopher (<i>Thomomys bottae</i>)	Found in extremely xeric locations below 11,000 feet amsl with variable soils and ground cover ranging from open to grasslands. Occurs in roadsides, valleys, and mountain meadows.
Cactus mouse (<i>Peromyscus eremicus</i>)	Found in deserts and pinyon-juniper (<i>Pinus</i> spp.– <i>Juniperus</i> spp.), Occurs in rocky, sandy, or loamy soils. Found in rock heaps, stone walls, burrows, woodrat houses, and brush fences.
Coyote (<i>Canis latrans</i>)	Occurs in all habitat types, including agricultural, urban, and suburban areas.
Desert cottontail (<i>Sylvilagus audubonii</i>)	Found in grasslands, brushlands, edges of foothill woodlands, willow thickets, and occasionally in cultivated fields or under buildings.
Desert kangaroo rat (<i>Dipodomys deserti</i>)	Occurs in low deserts, often sandy soil with sparse vegetation including alkali sink, shadscale scrub, and creosote bush (<i>Larrea tridentata</i>).
Desert pocket mouse (<i>Chaetodipus penicillatus</i>)	Occurs in sparsely vegetated sandy desert floors.
Javelina (=collared peccary) (<i>Dicotyles tajacu</i>)	Found in deserts, shrublands, cities, and agricultural areas.
Merriam's kangaroo rat (<i>Dipodomys merriami</i>)	Occurs in low deserts in sparsely vegetated areas.
Round-tailed ground squirrel (<i>Xerospermophilus tereticaudus</i>)	Found in Sonoran desertscrub, alkali sink, and creosote bush communities in low, flat areas and avoids rocky hills
Striped skunk (<i>Mephitis mephitis</i>)	Usually lives in areas near water, including rivers, streams, and irrigated places. Lives in natural cavities, burrows dug by other species, and human-made structures.

Common Name (Scientific Name)	Habitat
Western harvest mouse (<i>Reithrodontomys megalotis</i>)	Occurs in a wide variety of habitats in places with adequate cover. Often lives in areas with adequate grass cover, along streams, bottomlands, along fences, or around irrigated areas.
White-throated woodrat (<i>Neotoma albigula</i>)	Found in brushlands, rocky cliffs, creosote bush scrub, mesquite-yucca (<i>Prosopis</i> spp.– <i>Yucca</i> spp.), and pinyon-juniper woodland.
Bat Species	
Big brown bat (<i>Eptesicus fuscus</i>)	Occurs in variable habitat, from ponderosa pine (<i>Pinus ponderosa</i>) forests, pinyon-juniper woodlands, the lower edge of spruce-fir (<i>Picea</i> spp.– <i>Abies</i> spp.) forests, and Lower Sonoran zones. Migratory; found throughout the state in summer and in southern Arizona in the winter. Roosts in buildings, bridge joints, mines, hollow trees, and caves.
California leaf-nosed bat (<i>Macrotus californicus</i>)	Primarily found in Sonoran desertscrub; summer and winter range essentially the same; roosts in mines, caves, and rock shelters.
California myotis (<i>Myotis californicus</i>)	Found in desert ranges and flatlands; desertshrub-oak (<i>Quercus</i> spp.) to ponderosa pine zones. Migratory; winter distribution in southern Arizona, south of the Gila River. Roosts in crevices and cracks in canyon walls, caves, and mine shafts, and under bark in trees or snags.
Pallid bat (<i>Antrozous pallidus</i>)	Found in many habitat types, including forests, canyons, open farmland, and deserts. Migratory; occurs throughout Arizona and in the southern part of the state in winter. Roosts in rock crevices, buildings, caves, and mines.

Source: Range or habitat information is from AGFD (2022a; 2022b); Hoffmeister (1986); and NatureServe (2022).

BIRDS

The Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community generally consists of open, sparsely vegetated habitats that do not support a bird community as diverse as found in other subdivisions of Sonoran Desertscrub (Brown 1994). However, the agricultural areas and residences in the Study Area provide additional habitat. Birds have potential to use the Study Area and Project Area for their life-history needs (i.e., foraging, nesting, or perching). Table D-2 lists the bird species that may occur in the Study Area. Western burrowing owl was observed in the Project Area and is addressed in Exhibit C.

Table D-2. Bird Species that May Occur in the Study Area

Common Name (Scientific Name)	Habitat
American kestrel* (<i>Falco sparverius</i>)	Occurs in a variety of habitats with open settings with scattered trees or other structures for perching. Year-round resident.
Anna's hummingbird (<i>Calypte anna</i>)	Occurs in chaparral, coastal scrub, oak savannas, and open woodland. Also common in urban and suburban settings.
Cactus wren (<i>Campylorhynchus brunneicapillus</i>)	Associated with desertscrub communities. Although the species is commonly associated with cholla (<i>Cylindropuntia</i> spp.), it occurs in areas lacking cholla also. Can occur in dry, sparsely vegetated areas. Year-round resident.
Common raven (<i>Corvus corax</i>)	Found in most habitat types in select open areas. Regularly encountered in rural, agricultural, and urban settings. Year-round resident.
Cooper's hawk (<i>Accipiter cooperii</i>)	Occurs in woodlands, parks, neighborhoods, and fields, associated with trees.
Curve-billed thrasher (<i>Toxostoma curvirostre</i>)	Found in creosote bush desertscrub, grasslands, and residential areas.
Elf owl (<i>Micranthe whitneyi</i>)	Found in deserts, dry shrublands, riparian woodlands, and open pine-oak (<i>Pinus</i> spp.– <i>Quercus</i> spp.) forests.
European starling† (<i>Sturnus vulgaris</i>)	Occurs predominantly near human settlements, in rural, urban, and agricultural fields. Year-round resident.
Gambel's quail (<i>Callipepla gambelii</i>)	Typically associated with brushy Sonoran Desert uplands and desert washes. Can also occur in residential areas and along the margins of cultivated lands. Year-round resident.

Common Name (Scientific Name)	Habitat
Great horned owl (<i>Bubo virginianus</i>)	Occurs in a wide variety of habitats including agricultural and residential areas as well as woodlands and orchards.
Great-tailed grackle* (<i>Quiscalus mexicanus</i>)	Occurs in partly open areas with scattered trees around human habitation. Year-round resident.
Greater roadrunner (<i>Geococcyx californianus</i>)	Occurs in open, arid country with scattered shrubs, trees, or cacti. Also common in agricultural areas and urban and suburban settings. Year-round resident.
Harris's hawk (<i>Parabuteo unicinctus</i>)	Found in semi-open desert lowlands; territories include tall perches (e.g., trees, power poles, or boulders) and access to water.
House finch* (<i>Carpodacus mexicanus</i>)	Occurs in arid scrub and brush, open woodland, oak-juniper, and pine-oak habitats, and towns and cultivated lands. Year-round resident.
House sparrow (<i>Passer domesticus</i>)	Introduced species that occurs abundantly in cities and towns. Occurs in feedlots, agricultural areas, and urban and rural communities. Year-round resident.
Inca dove (<i>Columbina inca</i>)	Found in open country, urban, and agricultural areas. Year-round resident.
Lesser goldfinch (<i>Spinus psaltria</i>)	Occurs in patch open habitats, including thickets, weedy fields, woodland, scrubland, and farmlands.
Lesser nighthawk (<i>Chordeiles acutipennis</i>)	Found in arid lowlands, deserts, and agricultural areas. Nests on the ground, usually beneath a shrub but sometimes out in the open. Migratory, present in Arizona spring–fall.
Mourning dove* (<i>Zenaida macroura</i>)	Occurs in a wide variety of habitats, most regularly in desertscrub, shrubby grasslands, and open woodlands. Also found in rural and urban habitats.
Northern cardinal (<i>Cardinalis cardinalis</i>)	Occurs in dense shrubby areas including overgrown fields, backyards, mesquite (<i>Prosopis</i> spp.), thickets, and ornamental landscaping.
Northern mockingbird (<i>Mimus polyglottos</i>)	Prefers open and partly open situations. Occurs in areas of scattered brush or trees to semidesert, and around towns and cultivated areas.
Phainopepla (<i>Phainopepla nitens</i>)	Occurs in Arizona during the breeding season. Found in desert washes, where they feed heavily on desert mistletoe berries.
Red-tailed hawk (<i>Buteo jamaicensis</i>)	Occurs in a wide variety of open habitats. Elevated perches are important. Year-round resident.
Red-winged blackbird (<i>Agelaius phoeniceus</i>)	Nests near water. During migration and wintering can also occur in cultivated lands, pastures, and prairies. May be year-round or migratory.
Turkey vulture* (<i>Cathartes aura</i>)	Widespread, and uses a variety of habitats. Commonly perches on rocky outcrops, cliffs, canyon walls, transmission towers, telephone poles, and tall trees. Migratory.
Verdin (<i>Auriparus flaviceps</i>)	Found in desertscrub and xeroriparian areas in association with creosote bush, paloverde (<i>Parkinsonia</i> spp.), and mesquite.
Vermilion flycatcher (<i>Pyrocephalus rubinus</i>)	Found in desertscrub, mesquite bosques, and deciduous riparian areas,
Western kingbird (<i>Tyrannus verticalis</i>)	Prefers open areas in many habitat types including desert, rural, and agricultural areas. Migratory.
White-winged dove* (<i>Zenaida asiatica</i>)	Habitat generalist, including desertscrub, riparian, urban, and agricultural areas. Year-round resident.

Source: Range or habitat information is from Corman and Wise-Gervais (2005); eBird (2022); and NatureServe (2022).

*Observed in Project Area during field reconnaissance

†Non-native species

REPTILES

The Lower Colorado River Valley subdivision of the Sonoran Desert biotic community is home to many reptile species (Brown 1994). Species of this biotic community may occur in the portions of the Project Area and Study Area containing native vegetation. Table D-3 lists the reptile species that may occur in the Study Area. Flat-tailed horned lizard was observed in the Study Area and is addressed in Exhibit C.

Table D-3. Reptile Species that May Occur in the Study Area

Common Name (Scientific Name)	Habitat
Coachwhip (<i>Coluber flagellum</i>)	Typically occurs in desertscrub and semidesert grasslands. Uses a wide range of habitats including desert, prairie, scrubland, woodland, farmland, and creek valleys, generally in dry, open terrain.
Common side-blotched lizard (<i>Uta stansburiana</i>)	Typically occurs in desertscrub, semidesert grasslands, Great Basin grasslands, and interior chaparral.
Desert iguana (<i>Dipsosaurus dorsalis</i>)	Primarily found in Mohave desertscrub and Lower Colorado River Subdivision of Sonoran desertscrub, and occasionally in Arizona Upland Subdivision of Sonoran desertscrub. Occurs on flatlands and gently sloping bajadas.
Desert nightsnake (<i>Hypsiglena chlorophaea</i>)	Ranges from flat, open sandy deserts to steep, rocky, and wooded slopes.
Desert spiny lizard (<i>Sceloporus magister</i>)	Sonoran desertscrub, Great Basin desertscrub, Semidesert grassland, interior chaparral, and woodlands
Desert glossy snake (<i>Arizona elegans eburnata</i>)	Found in desertscrub and semidesert grasslands in open areas with sandy soils.
Gophersnake (<i>Pituophis catenifer</i>)	Found in biotic communities up to Alpine Tundra. Occurs in deserts, forests, and coastal grasslands.
Long-nosed leopard lizard (<i>Gambelia wislizeni</i>)	Found in desertscrub and semidesert grasslands.
Long-nosed snake (<i>Rhinocheilus lecontei</i>)	Occurs in deserts, dry prairies, arid river valleys, thornbrush, and shrubland.
Long-tailed brush lizard (<i>Urosaurus graciosus</i>)	Occurs in desertscrub communities.
Ornate tree lizard (<i>Urosaurus ornatus</i>)	Occurs in most biotic communities from desertscrub to subalpine.
Sidewinder (<i>Crotalus cerastes</i>)	Typically occurs in flat, open desert with sandy or loamy soils.
Spotted leaf-nosed snake (<i>Phyllorhynchus decurtatus</i>)	Found in creosote bush flats and washes in Sonoran desertscrub.
Tiger whiptail (<i>Aspidoscelis tigris</i>)	Occurs in a wide variety of habitats including creosote bush flats, sandy wash, canyons, and hillsides. Found in desertscrub, semidesert grasslands, and lower reaches of chaparral.
Western banded gecko (<i>Coleonyx variegatus</i>)	Ranges from dry creosote bush flats to rugged, rocky slopes to barren high desert plateaus.
Western patch nosed snake (<i>Salvadora hexalepis</i>)	Found in flatlands and low valleys from desertscrub to woodlands.
Zebra-tailed lizard (<i>Callisaurus draconoides</i>)	Found primarily in desertscrub. Occurs in flatlands and broad, sandy washes.

Range or habitat information is from AGFD (2022a; 2022b); Brennan (2012); and NatureServe (2022).

*Observed during field reconnaissance

AMPHIBIANS

There are no perennial water sources within the Project Area or Study Area. Amphibian species have the potential to occur within the Project Area of Study Area in any location that accumulates water, including roadside puddles or depressions following monsoon rains or within fields during irrigation. Amphibians could also occur in mud cracks, mammal burrows, or structures within the Study Area to avoid desiccation. Table D-4 lists the amphibian species that may occur in the Study Area.

Habitat in the Project Area for amphibians is limited to edges of agricultural fields and desertscrub buried underground except for monsoon season.

Table D-4. Amphibian Species that May Occur in the Study Area

Common Name (Scientific Name)	Habitat
Amphibians	
Couch's spadefoot (<i>Scaphiopus couchii</i>)	In the United States, found in arid and semi-arid shrublands, shortgrass plains, mesquite savanna, creosote bush desert, thorn forest, and cultivated areas. Individuals are typically buried underground except during and for a short time following monsoon rains.
Woodhouse's toad (<i>Anaxyrus woodhousii</i>)	Found in areas near ponded permanent water, such as backwaters and slack water of lakes and irrigation ditches and canals, but can also be found at cattle tanks and other seasonal wetlands foraging in rural or urban areas near these habitats.

Range or habitat information is from AGFD (2022a); Brennan (2012); and NatureServe (2022).

FISH SPECIES

There is no perennial aquatic habitat in the Project Area. Within the Study Area, there are ponds associated with gravel mining operations, including a pond with cattails approximately 1.1 miles south of the Project Area. However, this pond does not connect to any larger body of water and would not be expected to contain fish. As such, there is no potential for fish to occur in the Project Area or Study Area.

Summary of Potential Effects

Vegetation

The Project involves work in previously developed and disturbed areas (i.e., existing roadway, existing agricultural fields) as well as in Sonoran desertscrub dominated by white bursage and/or creosote bush, as well as fourwing saltbush. Relatively small areas of vegetation would be removed in areas where power poles would be placed; thus, the loss of vegetation in the Project Area would not result in impacts to the Lower Colorado River Valley subdivision of the Sonoran Desert biotic community native vegetation community.

Vegetation that could be removed during Project construction includes weedy species along the edges of the existing road and agricultural fields, as well as desert species in localized areas where new power poles would be placed. Given the minimal vegetation to be impacted and the abundance of similar vegetation in the Study Area, the Project would not significantly impact vegetation communities.

Mammal Species

Project construction activities could cause death or injury to terrestrial mammals that may not be able to flee from heavy equipment or vehicular traffic, with a higher likelihood of these impacts for individuals of species that are small, nocturnal, or fossorial. Project construction could cause behavior changes, as individuals would be expected to flee from an increase of noise, vibration, and human presence within the Project vicinity. Individuals would be expected to flee or hide, depending on the species' life history, which could increase depredation, decrease foraging success, reduce reproductive success, and result in loss of fitness for that individual from increased metabolic output.

Project construction activities would be temporary. The loss and degradation of mammal habitat from short- and long-term Project activities would be negligible as the Project Area is relatively small and the Study Area contains large areas of habitat to the east. As such, any loss of vegetation from construction

activities would not contribute meaningfully to habitat fragmentation for mammals or decrease connectivity between habitats.

Bat activity patterns and foraging would be unlikely to be impacted since bats are nocturnal and Project construction would occur typically during the day. Some roosting habitats may occur in the Study Area, but none are present in the Project Area. The loss of potential foraging habitat in the Project Area is unlikely to have individual or population-level impacts to any bat species because the area of disturbance is relatively small compared with the available foraging habitat in the Study Area.

Construction of the Project would result in an increase of fugitive dust. The fugitive dust during construction could change mammal behavior (e.g., reducing the amount of foraging). The likelihood and severity of impacts from construction would decrease with increasing distance from the Project Area. These impacts would cease with completion of construction activities.

Bird Species

Birds, including raptors, can collide with power lines, resulting in injury or death (Avian Power Line Interaction Committee [APLIC] 2012). Birds that are large-bodied, are fast flyers, have large wing spans, or that have low maneuverability (e.g., many wading birds or waterfowl) or birds that show certain behaviors (e.g., flocking, flying at altitudes at or below power line height, or birds that nest or forage in close proximity to power lines) have a higher risk of impacts from power line collisions (APLIC 2012). Birds generally avoid collision with power lines when they are perceived by the bird, and therefore collision risk is lower in areas where multiple transmission lines are near one another, or transmission lines are placed near other infrastructure (APLIC 2012).

Transmission and distribution lines can also cause bird electrocution, although the risk is highest with lower-voltage lines. Electrocution occurs when a bird simultaneously contacts energized and grounded electrical components. High-voltage lines require spacing between those components that cannot be spanned even by very large birds, so that electrocution risk is precluded almost entirely (APLIC 2012).

Resident, migrating, or dispersing birds would be at risk of collision with new power poles or power lines. New infrastructure associated with the Project may increase the risk of collision. There is potential for impacts to nests including death or injury of eggs or nestlings or nest failure from construction disturbance.

Potential impacts from increased noise, vibration, or human presence in the Project Area and from loss, degradation, and fragmentation would be the same as those described for terrestrial mammals. The increase in potential perches for hunting from the additional power poles could improve hunting habitat for some species.

Reptile Species

Potential impacts to reptiles including death, injury, or impacts arising from behavior changes and from the loss, degradation, and fragmentation of habitat would be similar to those described for terrestrial mammals. Fossorial reptiles, reptiles that are inactive due to heat or cold, and small reptiles would have a higher chance of injury or death compared with those individuals that are more mobile. Reptile species near the additional power poles could have increased predation due to the increase in available perches for reptile predators.

Amphibian Species

Potential impacts to amphibians including death, injury, or impacts arising from behavior changes and from the loss, degradation, and fragmentation of amphibian habitat would be similar to those described for terrestrial mammals.

Fish Species

As no habitat for fish species occurs in the Project Area or the Study Area, there would be no impacts to fish species.

Mitigation Measures

The following mitigation measures are designed to reduce the risk of animal injury or spread of invasive species. For mitigation measures specific to special-status species, please see Exhibit C.

- Transmission lines pose a risk of collisions and electrocution for birds, particularly raptors. To minimize that risk, the Applicant will design the Gen-Tie to incorporate reasonable measures to minimize electrocution of and impacts to avian species following the guidelines outlined in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012). Preconstruction surveys for nesting birds should be conducted by qualified biologists if vegetation-clearing activities would occur during bird nesting season (generally March–September with January–June for raptors).
- To minimize the introduction and spread of invasive species and noxious weeds, standard best management practices (BMPs) will be used during construction. These BMPs can include measures such as washing equipment prior to and following mobilization to the Project Area.
- If vegetation-disturbing activities are planned during the migratory bird nesting season (March–September or January–June for raptors), measures to avoid any active bird nests within the Project Area, such as preconstruction surveys for migratory bird nests by a qualified biologist, should be taken to maintain compliance with the MBTA since suitable nesting habitat for migratory bird species is present in the Project Area.

Conclusion

Portions of the Project Area and Study Area occur within previously disturbed and developed areas with existing roads, residences, and agriculture. Existing distribution lines occur in the Project Area. Because the Project would disturb minimal vegetation within the Project Area, and there is abundant habitat in the Study Area and vicinity, impacts to general plants and wildlife would be minimal and restricted to individuals. At a landscape level, the Gen-Tie would not significantly reduce the amount of vegetation available for wildlife use, increase habitat fragmentation, or impact any likely wildlife dispersal or migration corridors. Therefore, the proposed Project may impact individuals (both wildlife and plant) but would be unlikely to have impacts at the population level for any species.

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EXHIBIT E. SCENIC AREAS, HISTORIC SITES AND STRUCTURES, AND ARCHAEOLOGICAL SITES

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

Describe any existing scenic areas, historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects, if any, the proposed facilities will have thereon.

Scenic Areas and Visual Resources

Overview

This section of Exhibit E addresses the inventory of and potential effects to scenic or visual resources in relation to proposed Gen-Tie. Specifically, this portion of Exhibit E includes a description of the methodology for assessing visual resources, an inventory of scenic resources and sensitive viewers in the Project Area, and a discussion of the potential effects of the Project. As previously noted, the Project would be located in unincorporated Yuma County, the City of Yuma, and the Barry M. Goldwater Range (BMGR). The Project does not occur on any public lands (e.g., Bureau of Land Management [BLM], U.S. Forest Service) that require conformance with specific visual resource management objectives or guidelines. Furthermore, the Project would not be located within any designated national or state scenic areas.

Methodology

The purpose of the visual impact assessment is to identify and characterize the level of visual modification in the landscape that would result from the Gen-Tie. Visual impacts are typically described in terms of the visual contrast created by a project, which can potentially affect both scenic quality and sensitive viewers. Scenic quality refers to the general characteristics and inherent aesthetic value of the landscape as a resource regardless of specific viewers. The term “sensitive viewers” refers to specific individuals and/or groups whose views could be affected by a project. The methods used to conduct this visual impact assessment are consistent with past visual resource studies conducted for similar projects approved by the State of Arizona Power Plant and Transmission Line Siting Committee.

SWCA Environmental Consultants (SWCA) developed an inventory of visual resources within the 2-mile Study Area by reviewing publicly available geographic information system (GIS) data, reviewing aerial photography, and completing on-site field verification and photographic documentation. These data were collected for all lands, regardless of jurisdiction, and used to develop a comprehensive understanding of the existing landscape and associated visual resources.

To assess how the Project may visually modify the existing landscape, SWCA developed photorealistic visual simulations of Project components from representative positions referred to as key observation points (KOPs). In selecting KOPs, SWCA visited the Study Area in August 2022, to evaluate nearby residential areas, recreation areas, and travel routes from which the Gen-Tie would be visible.

The Applicant ultimately selected five KOPs; existing conditions were photographed from each KOP for the purpose of creating visual simulations.

- KOP-1 represents views from East County 14th Street, facing east toward the Gen-Tie where it would enter the Orchard Substation.
- KOP-2 represents views from East County 15th Street, facing east toward the Gen-Tie, near the Sierra Sands neighborhood.
- KOP-3 represents views from East County 16th Street and South Avenue 4 ½ E, facing southeast toward the Gen-Tie, near residential properties.
- KOP-4 represents views from East County 17th Street, facing southeast toward the Gen-Tie, near an RV park (i.e., the SKP KOFA KO-OP Retreat & RV Park).
- KOP-5 represents views from East County 18th Street, facing east toward the Gen-Tie, near the Pioneer Rancheros neighborhood.

Photorealistic simulations of the Project components were made using ArcGIS, Google Earth Pro, Autodesk products (AutoCAD and 3DS Max), and Adobe Photoshop software for each KOP (see Exhibits G-6–G-10). Developing visual simulations involves creating a three-dimensional model of Project components, positioning the modeled Project components on a digital elevation model of the Project Area, and superimposing the resulting model onto the KOP photographs of existing conditions at the correct scale and distance. Date and time-of-day inputs determine shadows and reflected light, and the software accounts for distance and haze to increase accuracy of viewing conditions.

Using the resulting visual simulations, SWCA evaluated the potential for impacts to both scenic quality and sensitive viewers by evaluating the visual contrast the Project would have with the existing landscape. Visual contrast refers to the degree that the Project Gen-Tie would either resemble existing features in the landscape or contrast with features in the existing landscape. The degree of visual contrast considers the existing landforms, vegetation, and built features present in the landscape and is described in terms of the degree of perceivable change in the basic design elements of form, line, color, texture, and scale that would be evident by the introduction of the Project in the landscape.

The impact thresholds for this assessment are categorized as follows:

- High: Project features would result in a strong degree of contrast and would appear as dominant features within the existing landscape.
- Moderate: Project features would result in a moderate degree of contrast and would appear as co-dominant features within the existing landscape.
- Low: Project features would result in a weak degree of contrast and would be subordinate to the features of the existing landscape.
- None: Project features would result in no degree of contrast and would be subordinate to the features of the existing landscape.

SCENERY

In the context of the Project, scenery is a qualitative measure of the landscape's inherent aesthetic value or the appearance of existing landscape features, including landforms, vegetation, and built features. In general terms, the scenic quality is based on the premise that landscapes with greater diversity and visual variety in landforms and vegetation are more aesthetically pleasing and therefore hold greater value. For this analysis, impacts to scenic quality were based on comparing the inventoried quality of the scenery

with the anticipated quality considering any contrast introduced as a result of the construction and operation of the Project.

SENSITIVE VIEWERS

The concept of sensitive viewers refers to members of the public for whom the Project may be visible and may be sensitive to potential changes in the scenery because of the Project. With regard to sensitive viewers, the Project contrast is dependent on several factors, including viewing distance, duration of view, viewing condition, and degree of visibility. When combined, these factors indicate the overall visual dominance of the Project within the landscape.

The term “viewing distance” refers to the viewer’s physical distance from the Project components. The assessment of visual impacts is predicated on the fact that a person’s ability to discern details decreases as viewing distance increases. The duration of view refers to the length of time and associated viewing angle; generally, a viewer’s attention is attracted to a higher degree as the duration of view increases. Viewing conditions refer to whether the viewer is looking down at the Project from a superior position, looking up at the Project from an inferior position, or viewing the Project from an elevation that is similar to that of the Project (i.e., a neutral view). The term “degree of visibility” refers to whether views of the Project would be either open and unobstructed, or partially to fully obstructed by other features in the existing landscape (i.e., topography, vegetation, or built features). The degree of visibility also refers to whether the Project would be viewed against the sky (i.e., skylined) or viewed against a backdrop of landforms, vegetation, and/or built features.

Anticipated viewer sensitivities to visual changes are also discussed within the analysis, including brief discussions regarding the potential sensitivities of different types of identified viewer groups within the vicinity of the Project. Residential and recreational viewer groups are typically considered to have high sensitivities to visual changes in the landscape, while viewers moving along travel routes are considered to have low to moderate sensitivities to visual changes (unless traveling along a designated scenic travel route or more natural-appearing areas).

Inventory Results

SCENERY

The Study Area falls within the Sonoran Basin and Range Level III ecoregion and more specifically within the Central Sonoran/Colorado Desert Basins Level IV ecoregions (U.S. Environmental Protection Agency 2014). The Sonoran Basin and Range ecoregion consists of generally broad, open landscapes with scattered mountains and vegetation consisting of palo verde (*Parkinsonia* spp.), saguaro (*Carnegiea gigantea*), and other various Sonoran Desert plants. The Study Area consists of a modified and/or developed landscape that includes housing developments, agricultural fields, and public infrastructure (e.g., high-voltage transmission lines, canals, roadways). The Gila Mountains, approximately 12 miles to the east, the Laguna Mountains, approximately 15 miles to the north, and Pasadena Mountain, approximately 18 miles to the northwest, are visible from the Study Area. Additionally, the confluence of the Colorado River and Gila River is approximately 6.5 miles to the northwest.

Major roadways traversing the Study Area include Arizona State Route 195–Araby Road, South Avenue 6 E, East County 14th Street, South Avenue 5 E, East County 15th Street, South Avenue 4 E, East County 17th Street, South Avenue 3 E, and East County 19th Street. Existing overhead power lines are located along East County 14th Street, South Avenue 5 E, East County 16th Street, South Avenue 4 E, and East

County 19th Street; these existing power lines, along with the adjacent Arizona Public Service (APS) Orchard Substation, are visually prominent features near the Project.

The scenic quality within the Study Area is considered relatively low based on the general lack of visually interesting landforms and vegetation, as well as the prominence of existing built features and development that dominates with the appearance of the natural landscape.

SENSITIVE VIEWERS

Residences

A variety of residential developments are present in the Study Area, consisting primarily of lower-density single-family homes and mobile homes located to the north, northeast, and west of the Gen-Tie. The closest residences to the Project are approximately 170 feet to the west along South Avenue 4 E and South Avenue 5 E. Views from residences within the Study Area typically include other residential developments, roadway infrastructure, agriculture fields, and existing transmission lines, including the 69-kilovolt (kV) Western Area Power Administration (WAPA) line on the western edge of the BMGR. In some locations, residential views include views of the Gila Mountains to the east, the Laguna Mountains to the north, and Pasadena Mountain to the northwest. Residential viewers are assumed to have a relatively long duration of view and relatively high sensitivities to visual changes within the Study Area. As previously noted, KOPs 2, 3, 4, and 5 represent views facing toward where the Gen-Tie would be installed, from the residential areas immediately off the BMGR.

Recreation Areas

The nearest recreational facility appears to be a ball court behind the Desert View Church, located at 17714 South Avenue 4 East, Yuma, Arizona. Ocotillo Park and Dorothy Hall Elementary School are both more than 1 mile away from the Gen-Tie. Views from recreational users along the edges of neighborhoods are a mixture of panoramic and open in nature and include views of the Gila Mountains to the east, the Laguna Mountains to the north, and Pasadena Mountain to the northwest. The existing 69 kV WAPA-owned transmission line is likely visible from the ball court at the Desert View Church. Recreational viewers are assumed to have relatively moderate durations of view and a moderate sensitivity to visual changes as a result of the mixture of existing visible development and infrastructure in the area in conjunction with more open natural views of surrounding mountainous landforms.

Travel Routes

The primary travel routes in the Study Area include Arizona State Route 195–Araby Road, South Avenue 6 E, East County 14th Street, South Avenue 5 E, East County 15th Street, South Avenue 4 E, East County 17th Street, South Avenue 3 E, and East County 19th Street; these roadways are approximately 10 to 100 feet from the Project. Collector routes that support access to residential areas closest to the Project include East County 13 ³/₄ Street, South Avenue 6 ¹/₄ E, South Avenue 2 ¹/₄ E, East County 14 ¹/₄ Street, Country 14 ¹/₂ Street, East Mach Four Place, Limetree Lane, East Tangerine Drive, South Verde Avenue, Blanco Avenue, South Avenue 4 ¹/₄ E, South Avenue 4 ¹/₂ E, Verbena Street, Nine Iron Lane, South Sierra Sands Drive, Fuzzy Big Lane, County 15 ¹/₂ E, East Heavenly Place, Meredith Place, South Avenue 3 ¹/₂ E, East County 16 ³/₄ Street, East County 17 ³/₄ Street, South Avenue 3 ³/₄ E, 17 ³/₄ Street, East County 18th Street, South Avenue 4 E, Chaparral Way, Daytripper Drive, and South Avenue 1 E.

Views from travel routes typically include residential developments, roadway infrastructure, agriculture fields, and existing transmission lines, including the 69 kV WAPA line on the western edge of the BMGR. The existing transmission lines are visible from several travel routes in the Study Area. Given their height and relatively flat topography, the existing transmission lines are particularly prominent from primary travel routes. With the exception of travel routes surrounded by existing buildings and vegetation,

views from travel routes are mostly open and panoramic and include residential views, views of the Gila Mountains to the east, the Laguna Mountains to the north, and Pasadena Mountain to the northwest. Viewers moving along travel routes are expected to have relatively short durations of view due to travel speeds typically focused on the immediate foreground while in motion and relatively low sensitivities to visual changes as a result of the existing visible development and infrastructure within the Study Area.

Impact Assessment Results

The impact assessment results below provide a general description of the potential Project-related impacts to scenic quality and sensitive viewers. Overall, impacts associated with the Gen-Tie would be low because it would appear similar to the existing 69 kV WAPA transmission lines.

SCENERY

The Project would introduce an approximately 9.4-mile-long, 230 kV transmission line connecting the Project Substation to the APS Orchard Substation. The Gen-Tie would be parallel to the existing 69 kV WAPA transmission line for the majority of the route. The steel monopole structures would typically be 80 – 120 feet tall with some structures as low as 80 feet and others as tall as 130 feet to maintain necessary clearances. The span length between structures would range between 280 and 500 feet, depending on final design. The Gen-Tie structures would have a dulled gray or weatherized finish, and conductors would have a non-specular finish to reduce visibility. Variations may be required to achieve site-specific mitigation objectives or meet site-specific engineering requirements.

Although the existing 69 kV WAPA line uses wood structures, visual simulations created for the Project (see Exhibits G-6–G-10) indicate that the lines, forms, textures, and scale of the Gen-Tie would appear generally similar. The Project would introduce new galvanized steel gray monopoles, but because of the existing WAPA line, the new structures would not result in a significant degree of contrast. Overall, the Project is expected to create low impacts to the existing, relatively low scenic quality within the Study Area. Project components could be seen but would not attract attention or introduce new visual elements that substantially differ from existing features.

SENSITIVE VIEWERS

The following is a summary of anticipated impacts to sensitive viewers resulting from the construction and operation of the Project.

Residences

Based on the relatively flat topography of the Study Area, views of the Gen-Tie from residences would be from a neutral position and may include skylined views of the Gen-Tie. Views from many residences in the Study Area would vary from partially to fully obstructed by other buildings or landscaping, where the Project would be visible.

Views from KOP-2 (see Exhibit G-7) provide a typical representation of the Project facing east along East County 15th Street, near the Sierra Sands residential neighborhood. The lines, forms, textures, and scale of the Gen-Tie would be similar to those of the existing 69 kV WAPA line already in the viewshed. Even from the relatively close vantage point of KOP-2, the addition of the Gen-Tie would result in a weak degree of contrast and low visual impacts.

KOP-3 represents views from the residential properties located near the intersection of East County 16th Street and South Avenue 4 ½ E, approximately 250 feet northwest of the Gen-Tie. As previously noted, new monopoles would be added parallel to the existing 69 kV WAPA line. As shown in the visual

simulation for KOP-3 (see Exhibit G-8), the new monopoles would introduce a new galvanized steel color compared with the existing wooden monopoles that are also taller in height; however, the lines, forms, textures, and scale of the Gen-Tie would be similar to those of the existing 69 kV line. Although the Gen-Tie would be visible from nearby residential properties, it would create a weak to moderate degree of contrast, with low to medium visual impacts.

KOP-4 represents views from the residential properties located near the intersection of East County 17th Street and South Avenue 4 E, approximately 900 feet northwest of the Gen-Tie. Near KOP-4, the Gen-Tie would diverge from the existing 69 kV WAPA line for a short distance. As shown in the visual simulation for KOP-4 (see Exhibit G-9), the Gen-Tie would be visible but only as a relatively minor feature near the horizon. Given that transmission structures for the Gen-Tie would not be immediately adjacent to existing structures for the 69 kV line, the Gen-Tie in the vicinity of KOP-4 would result in a moderate degree of contrast and moderate visual impacts.

Views from KOP-5 (see Exhibit G-10) provide a typical representation of the Project facing east on East County 18th, approximately 900 feet from the Gen-Tie near the Pioneer Rancheros neighborhood. This segment of the Gen-Tie would be parallel to the existing 69 kV WAPA line and would be present with similar lines, forms, textures, and scale as those of the existing facilities. As shown in the visual simulation for KOP-5, the Gen-Tie would be visible but result in only a weak degree of contrast and low visual impacts.

Recreation Areas

The nearest recreational facility appears to be a ball court behind the Desert View Church, located at 17714 South Avenue 4 East, Yuma, Arizona. The Gen-Tie may be partially visible from the ball court at the Desert View Church; views would likely be like those shown in the visual simulation of KOP-5, discussed above. Ocotillo Park and Dorothy Hall Elementary School are both more than 1 mile away from the Gen-Tie; the Gen-Tie would likely be fully obstructed from those recreational facilities.

Travel Routes

Views of the Project from travel routes within the Study Area would vary based on location from partially or fully obstructed. Most views of the Project would be fully obstructed by existing features (e.g., trees, existing buildings). Based on the generally flat landform on which the Project would be located, views of the Project from travel routes would generally be from a neutral position and would include skylined views of the Project, where visible.

Arizona State Route 195–Araby Road, South Avenue 6 E, East County 14th Street, South Avenue 5 E, East County 15th Street, South Avenue 4 E, East County 17th Street, South Avenue 3 E, and East County 19th Street are primary travel routes within the Study Area. Due to the orientation of primary routes in the Study Area, the Project would be viewed peripherally from the travel lanes for a short duration of time due to travel speeds. Additionally, intervening vegetation, existing transmission line infrastructure, and surrounding roadway infrastructure would further influence the viewer's ability to focus attention on the Project.

Views from KOP-1 (see Exhibit G-6) provide a typical representation of the Project facing east along East County 14th Street. The Project could be seen but would not attract attention and would be subordinate to other built features (e.g., existing transmission lines and the APS Orchard Substation) within the landscape. The lines, forms, colors, textures, and scale of the Project (transmission line and interconnection) would be similar in appearance to other transmission line and interconnection infrastructure found within the existing visual setting. Due the relatively close proximity of this KOP and the anticipated short duration of views, the Project could be seen but would not attract attention and

would be subordinate to other built features within the landscape, resulting in a weak degree of contrast and low visual impacts.

Conclusion

Overall, the Project would be similar in form, line, texture, and scale as that of the existing 69 kV WAPA transmission line and the associated existing APS Orchard Substation. This Project would result in low impacts to scenery. Similarly, impacts to sensitive viewers would be low as a result of the lack of perceived contrast due to intervening visual elements, similarities with existing transmission infrastructure, and the duration of view of the Project within the Study Area.

Historic Sites and Structures, and Archaeological Sites

As required by the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1, SWCA assessed the potential effects of the proposed Project on historic sites and structures and archaeological sites. The assessment also was prepared to support Arizona Corporation Commission compliance with the State Historic Preservation Act (Arizona Revised Statutes 41-861 through 41-864), which requires state agencies to consider impacts of their programs on historic properties listed in or eligible for listing in the Arizona Register of Historic Places (ARHP), and to provide the State Historic Preservation Office an opportunity to review and comment on the actions that affect such historic properties.

To be eligible for the ARHP, a property must be at least 50 years old (less, if it has special significance) and have national, state, or local significance in American history, architecture, archaeology, engineering, or culture. It should also possess integrity of location, design, setting, materials, workmanship, feeling, and association, and meet at least one of the four following criteria:

- Criterion (a): be associated with an event that made a significant contribution to the broad pattern of history
- Criterion (b): be associated with the life of a historically significant person
- Criterion (c): embodies a distinctive characteristic of a type, period, or method of construction, represents the work of a master, possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction
- Criterion (d): have yielded or is likely to yield important pre-historical or historical information.

Methodology

The Study Area for the purpose of assessing potential impacts to historic sites and structures, as well as archaeological sites, is defined as a 2-mile-radius buffer from the Gen-Tie. SWCA reviewed archival records to identify such properties within the Study Area. Data sources searched include the AZSITE database, the Arizona State Museum Archaeological Records Office, the National Register of Historic Places database, and General Land Office (GLO) plat maps and historic-era topographic maps.

Previous Cultural Resources Projects

The records review identified 44 prior cultural resources surveys that have taken place within the 2-mile Study Area. These projects took place from 1980 to 2022 in support of State Trust land sales, mining and materials sourcing, irrigation improvements, transportation improvements, electrical transmission lines, natural gas pipelines, agricultural improvements, and military operations. Of these, 20 cultural surveys intersect and cover approximately 1,985 acres (97%) of the proposed Gen-Tie corridor (Table 1).

Table E-1. Previous Cultural Resource Projects Intersecting the Proposed Gen-Tie Corridor

Agency Number	Project Name	Organization	Year
1992-262.ASM	Yuma Lateral Expansion Project	SWCA	1992
1997-82.ASM	A Cultural Resources Survey for the Proposed 25 Mile-Long Yuma Area Service Highway between San Luis	Archaeological Research Services (ARS)	1996
1999-538.ASM	Yuma: County 19th St. Near Avenue 3E	Archaeological Consulting Services (ACS)	1999

Agency Number	Project Name	Organization	Year
2000-620.ASM	Yuma South, Yuma Gravel Pits Survey	SWCA	2000
2003-267.ASM	Yuma Area Service Highway	Logan Simpson Design (Logan Simpson)	2002
2003-1306.ASM	Yuma Area Service Highway Supplemental Survey #1	Logan Simpson	2003
2004-234.ASM	Yuma Area Service Highway Supplemental Survey #3	Logan Simpson	2004
2008-669.ASM	Yuma Area Service Highway (Yuma ASH) Monitoring	Logan Simpson	2008
2009-489.ASM	Yuma Mine Survey	PaleoWest	2009
2009-693.ASM	Yuma County 14th Street Overlay	Jacobs Engineering	2009
2012-539.ASM	Marine Corps Air Station Yuma 10,000-Acre Cultural Resources Inventory	EnviroSystems Management	2011
2013-426.ASM	San Luis - Rio Colorado Transmission Line Survey	STATRES	2007
2014-608.ASM	Oropeza Date Farm	Environmental Planning Group	2014
2015-483.ASM	Cultural Resources Survey for a Renewable Energy Project for Marine Corps Air Station Yuma	Cardno	2013
2022-250.ASM	Cultural Resources Inventory of Approximately 2,570 Acres of State Trust Land for the Orchard Solar Project in Yuma County, Arizona	SWCA	2022
BLM-050-07-15-81-N	EAR for 69Kv Transmission Line Right of Way	BLM-YFO	1981
BLM-050-91-16	Unknown	BLM-YFO	1991
BLM-050-92-28	Unknown	BLM-YFO	1992
BLM-050-92-54	Unknown	BLM-YFO	1992
BLM-320-1996-018	Proposed Road: I-8 and Araby Road to San Luis	ARS	1996

Historic-era Sites

The records review identified nine historic-era sites, seven of which intersect the proposed Gen-Tie corridor (Table 2). The sites include a World War II-era gunnery training range, which was determined eligible for listing in the ARHP under Criterion A. The remaining historic-era sites are refuse scatters and trash dumps.

Table E-2. Previously Recorded Historic-era Sites within 2 Miles of the Project Site

Site Number	Cultural/Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Distance from Gen-Tie Line (miles)
AZ X:6:81(ASM)	Euro-American / ca. 1900–1950	World War II-era military gunnery training range	Determined eligible, Criterion A	Jones 2013	0.03 (approximately 160 feet)
AZ X:6:107(ASM)	Euro-American / ca. 1900–1950	Refuse scatter	Determined not eligible	Luchetta 2006	1.81
AZ X:6:108(ASM)	Euro-American / ca. 1900–1950	Refuse scatter	Recommended not eligible	Luchetta 2006	1.69
AZ X:6:112(ASM)	Euro-American / ca. 1900–1950	Refuse scatter	Determined not eligible	Graves et al. 2013	0.01 (approximately 50 feet)
AZ X:6:125(ASM)	Euro-American / ca. 1900–1950	Refuse scatter	Determined not eligible	Jones 2013	0.97

Site Number	Cultural/Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Distance from Gen-Tie Line (miles)
AZ X:6:126(ASM)	Euro-American / ca. 1900–1950	Refuse scatter	Determined not eligible	Jones 2013	0.80
AZ X:6:127(ASM)	Euro-American / ca. 1900–1950	Refuse scatter	Determined not eligible	Jones 2013	0.87
AZ X:6:128(ASM)	Euro-American / ca. 1900–1950	Refuse scatter	Determined not eligible	Jones 2013	0.81
AZ X:6:129(ASM)	Euro-American / ca. 1900–1950	Refuse scatter	Determined not eligible	Jones 2013	0.76

Note: Shading indicates site is within the proposed Gen-Tie corridor.

Historic Structures

The records review identified four historic-era structures with Arizona State Museum (ASM) site numbers within the Study Area, with none in the proposed Gen-Tie corridor (Table 3). Four historic-era canal structures are present in the Study Area, all of which are part of the Gila Irrigation Project and recommended or determined eligible for listing in the ARHP under Criterion A.

Table E-3. Previously Recorded Historic-era Structures within 2 Miles of the Project Site

Site Number	Cultural/Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Distance from Gen-Tie Line (miles)
AZ X:6:56(ASM)	Euro-American / 1920s–1950s	Canal terminus Unit B	Recommended eligible, Criterion A	Reclamation / AZSITE	1.56
AZ X:6:57(ASM)	Euro-American / 1920s–1950s	Canal lateral, Unit B	Recommended eligible, Criterion A	Reclamation / AZSITE	1.62
AZ X:6:64(ASM)	Euro-American / 1920s–1950s	Main canal, Unit B	Determined eligible, Criterion A	Rowe 2007	1.56
AZ X:6:82(ASM)	Euro-American / ca. 1900–1950	Main canal, Unit A	Determined eligible, Criterion A	Lonardo 2003	0.79

Note: Shading indicates site is within the proposed Gen-Tie corridor.

The GLO plats of Township 9 South, Range 22 West, filed in 1875; Township 9 South, Range 23 West, filed in 1875; Township 10 South, Range 22 West, filed in 1922; and Township 10 South, Range 23 West, filed in 1875, do not depict any cultural features within the Study Area or the proposed Gen-Tie corridor.

The 1905 U.S. Geological Survey (USGS) Yuma, California, 30-minute topographic map depicts two benchmarks within the Study Area, but nothing within the proposed Gen-Tie corridor. The 1940 USGS Yuma, Arizona, 15-minute topographic map does not depict any cultural features within the proposed Gen-Tie corridor. Within the Study Area, it depicts the A Canal, the B Main Lateral, four unimproved roads, two improved roads, two agricultural fields, and two buildings. The 1954 USGS El Centro, California, 1:250,000 scale topographic map does not depict any cultural features within the proposed Gen-Tie corridor. Within the Study Area, it also depicts the A Canal, the B Main Lateral, and four unimproved roads. The 1965 USGS Somerton, Yuma East, and Yuma SE, Arizona, 7.5-minute topographic maps depict 19th Street, Avenue 3E, four improved roads, three unimproved roads, two wells, two benchmarks, and five buildings/structures within the proposed Gen-Tie corridor. Within the Study Area, these maps also depict the A Canal, the B Main Lateral, Avenue A, Avenue A½, Avenue 4E, Avenue 5E, Avenue 5E, 13th Street, 14th Street, 15th Street, 16th Street, 17th Street, 17 ½ Street, 18th

Street, Avenue 1E, four jeep trails, 14 unimproved roads, four improved roads, 61 irrigation laterals, 17 wells, 51 buildings/structures, 15 benchmarks, two borrow pits, and approximately 5,200 acres of agricultural land along the western end of the Study Area. These cultural features range from directly adjacent to the proposed Gen-Tie corridor to all the way out to the 2-mile boundary of the Study Area.

Archaeological Sites

There are 12 archaeological sites within the Study Area, three of which intersect the proposed CEC corridor (Table 4). The 12 sites are Patayan or Indeterminate Native American artifact or lithic scatters, however three of these sites do not contain additional information beyond a locational center point. The three sites within the proposed Gen-Tie corridor are AZ X:6:96(ASM), AZ X:6:124(ASM), and AZ X:6:114(ASM). Site AZ X:6:96(ASM) has been determined eligible for listing in the ARHP, while sites AZ X:6:124(ASM) and AZ X:6:114(ASM) have been recommended not eligible for listing in the ARHP.

Table E-4. Previously Recorded Archaeological Sites within 2 Miles of the Project

Site Number	Cultural/Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Distance from Project (miles)
AZ X:6:14(ASM)	Patayan / A.D. 1000–1500	Artifact scatter	Determined eligible, Criterion D	Lonardo and Vorsanger 2015	0.70
AZ X:6:96(ASM)	Patayan / A.D. 200–1000	Artifact scatter	Determined eligible, Criterion D	Craig and Wallace 1987	0.02 (approximately 100 feet)
AZ X:6:124(ASM)	Patayan / A.D. 200–1500	Artifact scatter	Recommended not eligible	Jones 2013	0.59
AZ X:6:110(ASM)	Indeterminate Native American	Lithic scatter	Recommended not eligible	Graves et al. 2013	1.63
AZ X:6:111(ASM)	Patayan, A.D. 700–1000	Lithic scatter	Recommended not eligible	Graves et al. 2013	0.93
AZ X:6:113(ASM)	Indeterminate Native American	Lithic scatter	Recommended not eligible	Graves et al. 2013	1.67
AZ X:6:114(ASM)	Indeterminate Native American	Lithic scatter	Recommended not eligible	Graves et al. 2013	0.02 (approximately 100 feet)
AZ X:6:131(ASM)	Unknown	Unknown	Unknown	Unknown	0.58
AZ X:6:132(ASM)	Unknown	Unknown	Unknown	Unknown	0.86
AZ X:6:133(ASM)	Unknown	Unknown	Unknown	Unknown	1.34
AZ X:6:140(ASM)	Indeterminate Native American	Lithic scatter	Recommended not eligible	Vorsanger et al. 2022	0.79
AZ X:6:141(ASM)	Indeterminate Native American	Lithic scatter	Recommended not eligible	Vorsanger et al. 2022	0.38

Note: Shading indicates site is within the proposed Gen-Tie corridor.

Assessment of Effects

A project can have direct and/or indirect effects on a historic site, structure, or archaeological site when it alters the characteristics that qualify it for listing in the ARHP. Effects are adverse when they diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Adverse effects on historic properties include, but are not limited to, the following:

- Physical destruction of or damage to all or part of the property
- Removal of the property from its historic location
- Change of the character of the property's use of physical features within the property's setting that contribute to its historic significance
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic characteristics
- Neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe
- Transfer, lease, or sale of a property out of government ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance

DIRECT EFFECTS

The records review identified that the almost the entirety of the requested CEC corridor has been covered by prior cultural resources surveys. It is unlikely that there would be any additional unknown historic properties (ARHP-eligible resources) in the proposed CEC corridor. The records review identified two ARHP-eligible archaeological sites (AZ X:6:81[ASM] and AZ X:6:96[ASM]) and, based on map research, several historic-era roads, wells, benchmarks, and building/structures within the Gen-Tie corridor.

Site AZ X:6:81(ASM) is a World War II-era military gunnery training range that has been determined eligible for listing in the ARHP under Criterion A, and site AZ X:6:96(ASM) is a Patayan artifact scatter that has been determined eligible for the ARHP under Criterion D. The cultural features depicted within the CEC corridor on the 1965 USGS quadrangles have not been formally recorded and evaluated for listing in the ARHP, but it is unlikely that any would be determined eligible for listing in the ARHP. Although sites AZ X:6:81(ASM) and AZ X:6:96(ASM) are within the requested CEC corridor, the currently proposed Project alignment passes near – but not through – the sites. The Applicant would seek to 1) avoid these sites (preferably), or 2) minimize potential effects to the sites by avoiding sensitive site features or loci by micro-siting transmission structures within the approved corridor to span resources. Ultimately, if project development would result in adverse effects to the sites, the Applicant would develop and implement a historic properties treatment plan to mitigate any adverse effects.

INDIRECT EFFECTS

The records review identified four historic properties in the Study Area (AZ X:6:56[ASM], AZ X:6:57[ASM], AZ X:6:64[ASM], and AZ X:6:82[ASM]), all of which are historical in-use canal structures. Construction of the Project would introduce a visual element to the area, which could potentially diminish the integrity of the characteristics of these properties for which they are eligible for the ARHP. The visual impact analysis of the proposed Project (contained in the above sections) concluded that the lines, forms, textures, and scale of the Project would be similar to those of the existing

69 kV WAPA line already in the viewshed. Even from the relatively close vantage points, the addition of the Project would result in a weak degree of contrast and low visual impacts.

Conclusion

Although the Project has the potential to directly impact site AZ X:6:81(ASM) and AZ X:6:96(ASM) within the CEC corridor, the current alignment does not pass through these sites. The Applicant would seek to 1) avoid these sites (preferably), or 2) minimize potential effects to the sites by avoiding sensitive site features or loci by micro-siting transmission structures within the approved corridor to span resources. Regarding the in-use canal historic properties in the Study Area, as indicated in the previous section, the Project is expected to introduce a weak degree of visual contrast with low visual impacts, given that much of the Project would be parallel to an existing overhead transmission line. A survey of the Project components would be needed to ascertain the extent of the impacts to historic properties.

Literature Cited

- Craig, Douglas B. and Henry D. Wallace. 1987. *Prehistoric Settlement in the Cañada del Oro Valley, Arizona: The Rancho Vistoso Survey Project*. Anthropological Papers 8. Institute for American Research Tucson, Arizona.
- Graves, William M., Amelia Natoli, and Edgar K. Huber. 2013. *A Class I Overview and Class III Cultural Resource Inventory of the Proposed San Luis Rio Colorado Project Transmission Line Corridor, Yuma County, Arizona*. Report No. 07-11. Statistical Research, Inc., Tucson, Arizona.
- Jones, Robert M. 2013. *Cultural Resources Survey for a Renewable Energy Project for MCAS Yuma*. Cardno TEC, Boise, Idaho.
- Lonardo, Cara. 2003. *A Supplemental Cultural Resources Survey of 16.1 Acres for the Proposed Yuma Area Service Highway Between US 95 North of San Luis and Interstate 8 at Araby Road, Southwest Yuma County, Arizona*. Technical Report No. 015145b. Logan Simpson Design, Inc, Tempe, Arizona.
- Lonardo, Cara and Andrew Vorsanger. 2015. *A Class III Cultural Resources Survey for the Western Area Power Administration Levee-Salinity Power Systems Project, Yuma County, Arizona*. Technical Paper No. 2015-22. Environmental Planning Group, LLC, Phoenix, Arizona.
- Luchetta, Sarah K. 2006. *A Class III Cultural Resources Survey of 160 Acres of Farmland (ASLD Lease No. 001-105689) in Yuma County, Arizona*. Harris Environmental Group, Tucson, Arizona.
- Rowe, Robert. 2007. *A Cultural Resource Survey for the Yuma TS-8 to San Luis 69 kV Transmission Line Project, Yuma County, Arizona*. Technical Report No. 2007-0026. Environmental Planning Group, Phoenix, Arizona.
- U.S. Environmental Protection Agency. 2014. *Level III and IV Ecoregions of Arizona*. Available at: https://gaftp.epa.gov/EPADDataCommons/ORD/Ecoregions/az/az_front.pdf. Accessed October 2022.
- Vorsanger, Andrew, Garren G. Curry, and Paul M. Rawson. 2022. *Cultural Resources Inventory of Approximately 2,570 Acres of State Trust Land for the Orchard Solar Project in Yuma County, Arizona*. Technical Report No. 22-574. SWCA Environmental Consultants, Phoenix, Arizona.

EXHIBIT F. RECREATION

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1, the intent of this exhibit is to:

State the extent, if any, the proposed site or route will be available to the public for recreational purposes, consistent with safety considerations and regulations and attach any plans the applicant may have concerning the development of the recreational aspects of the proposed site or route.

Existing and Planned Recreational Facilities

As previously noted, the 2-mile Study Area overlaps portions of unincorporated Yuma County, the City of Yuma, and the Barry M Goldwater Range (BMGR). SWCA Environmental Consultants reviewed the respective general and natural resource management plans, planning documents related to parks and recreation, and aerial photography, and completed a field visit to identify recreational resources in the Study Area. Existing recreational facilities and their approximate distance to the nearest point of the Gen-Tie are identified in Table F-1.

Table F-1. Inventory of Existing Recreational Facilities in the Study Area

Facility	Address	Nearest point on the Gen-Tie
Ocotillo Park	4254 S Jojoba Avenue, Yuma, AZ 85365	Approximately 1.7 miles to the north
Desert View Church	17714 S Avenue 4 East, Yuma, AZ 85365	Approximately 0.20 mile to the west
Dorothy Hall Elementary	5777 E 45 th Place, Yuma, AZ 85365	Approximately 1.3 miles to the northeast

As indicated above, the nearest recreational facility to the Project is a ball court at the Desert View Church on South Avenue 4 East. The gen-tie would not cross or otherwise interfere with the recreational uses at either facility. Given the distance between the Project and existing recreational facilities in the Study Area, the Project is not expected to interfere with the opportunities for recreation.

According to the *City of Yuma 2022 General Plan*, there are proposed bike lanes in the Study Area (City of Yuma 2022). One proposed bike lane would be located along County 19th, parallel to the Gen-Tie, with several other proposed bike lanes throughout the Study Area. Additionally, there are several proposed neighborhood parks and two proposed community parks in the Study Area. The proposed parks are located in the southwest section of the Study Area. The Gen-Tie would not interfere with these proposed recreation spaces.

According to the *Barry M. Goldwater Range 2018-2023 Integrated Natural Resources Management Plan* public recreation map, the BMGR land surrounding the proposed Project is not publicly accessible (Colorado State University 2018).

Given that most of the Project would traverse the BMGR, which is not accessible to the public, the Applicant does not have plans to develop public “recreational aspects” along the route.

Literature Cited

City of Yuma. 2022. *City of Yuma 2022 General Plan*. Available at:

<https://www.yumaaz.gov/home/showpublisheddocument/5172/637939261174930000>. Accessed September 2022.

Colorado State University. 2018. *Barry M. Goldwater Range 2018-2023 Integrated Natural Resources Management Plan*. Available at

https://www.mcasyma.marines.mil/Portals/152/Staff%20and%20Agencies/Range%20Natural%20and%20Cultural%20Resources/Vol_1_2_3_Final_INRMP_Digital%20Version%20small.pdf?ver=2019-01-22-111612-430. Accessed September 2022.

EXHIBIT G. CONCEPTUAL DRAWINGS OF TRANSMISSION FACILITIES

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

Attach any artist's or architect's conception of the proposed plan or transmission line structures and switchyards, which applicant believes may be informative to the committee.

- Exhibit G-1: 230 kV Monopole Structure #1
- Exhibit G-2: 230 kV Monopole Structure #2
- Exhibit G-3: 230 kV Monopole Structure #3
- Exhibit G-4: 230 kV Monopole Structure #4
- Exhibit G-5: 230 kV Monopole Structure #5
- Exhibit G-6: 230 kV Monopole Structure #6
- Exhibit G-7: 230 kV Monopole Structure #7
- Exhibit G-8: 230 kV 230 kV A-Frame Deadend Structure
- Exhibit G-9: Photosimulation of the Gen-Tie from KOP-1
- Exhibit G-10: Photosimulation of the Gen-Tie from KOP-2
- Exhibit G-11: Photosimulation of the Gen-Tie from KOP-3
- Exhibit G-12: Photosimulation of the Gen-Tie from KOP-4
- Exhibit G-13: Photosimulation of the Gen-Tie from KOP-5

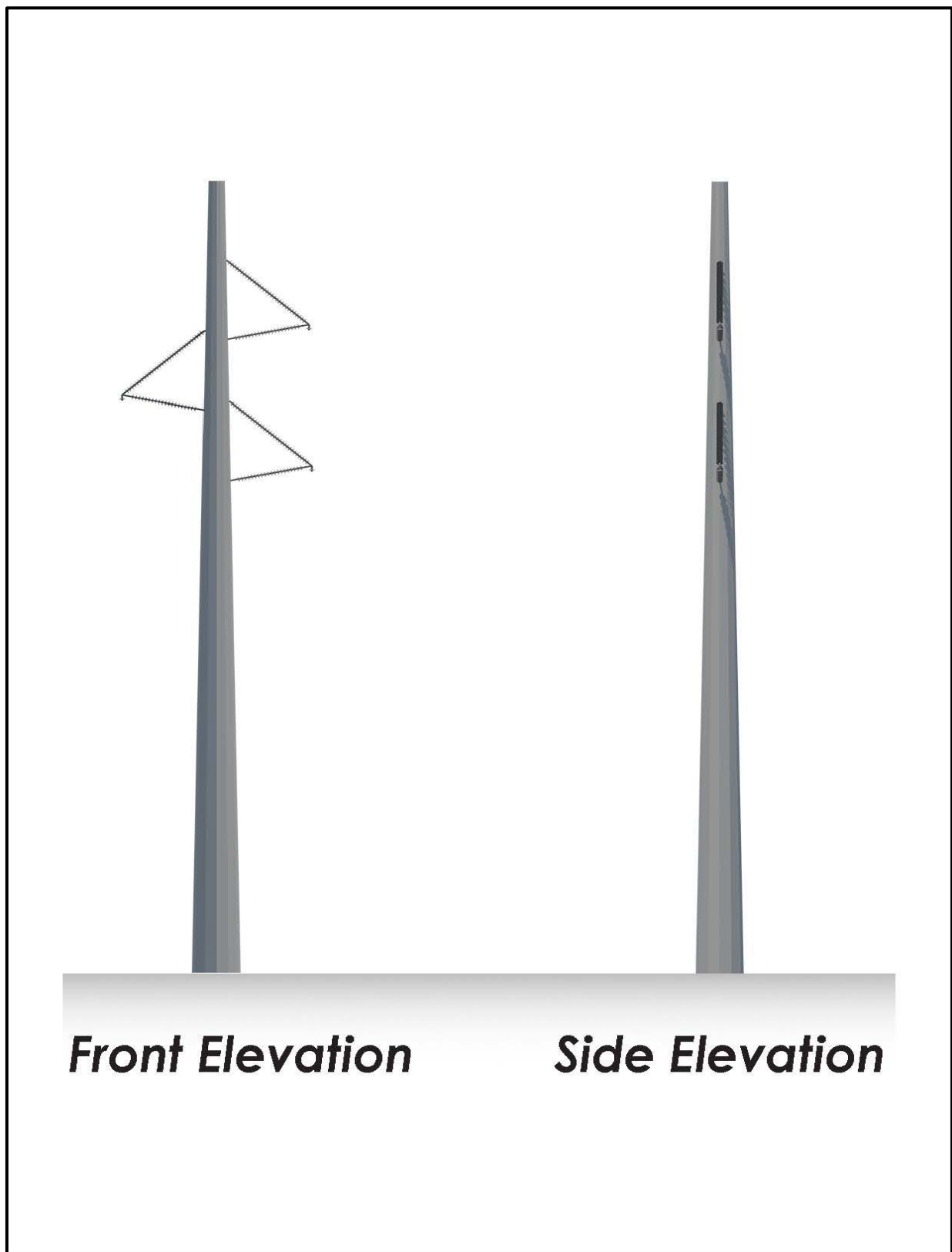


Exhibit G-1. 230 kV Monopole Structure #1.

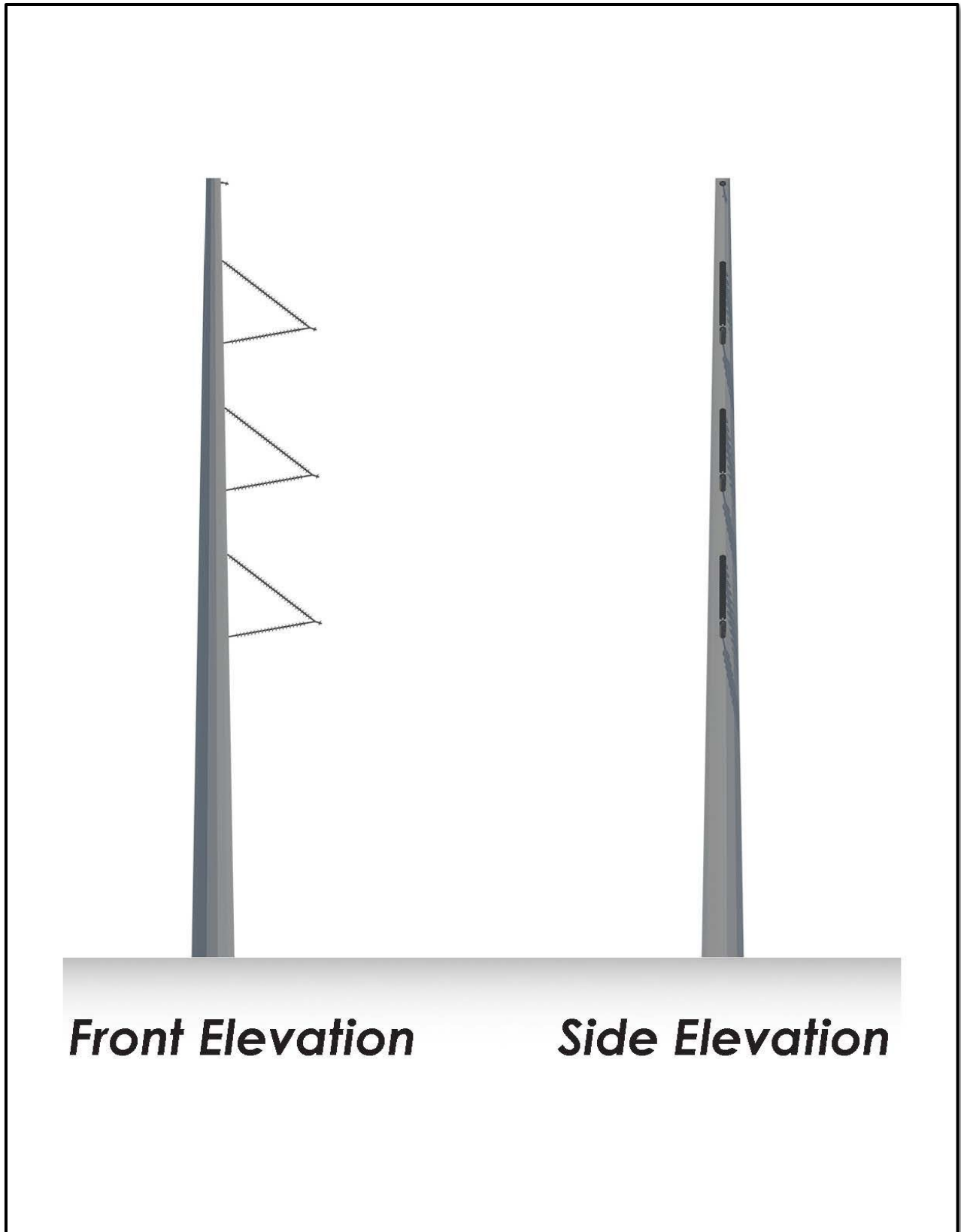


Exhibit G-2. 230 kV Monopole Structure #2.

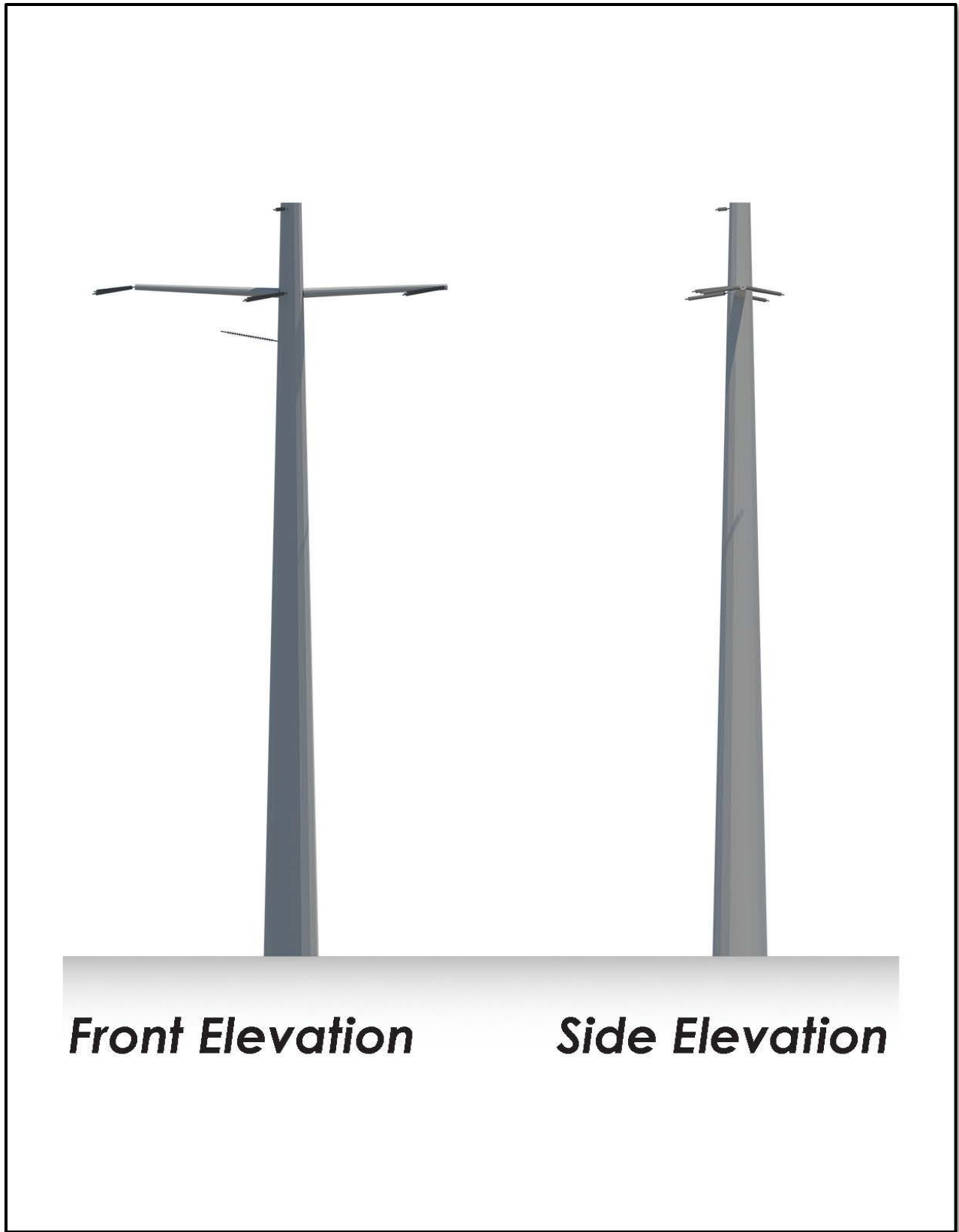


Exhibit G-3. 230 kV Monopole Structure #3.

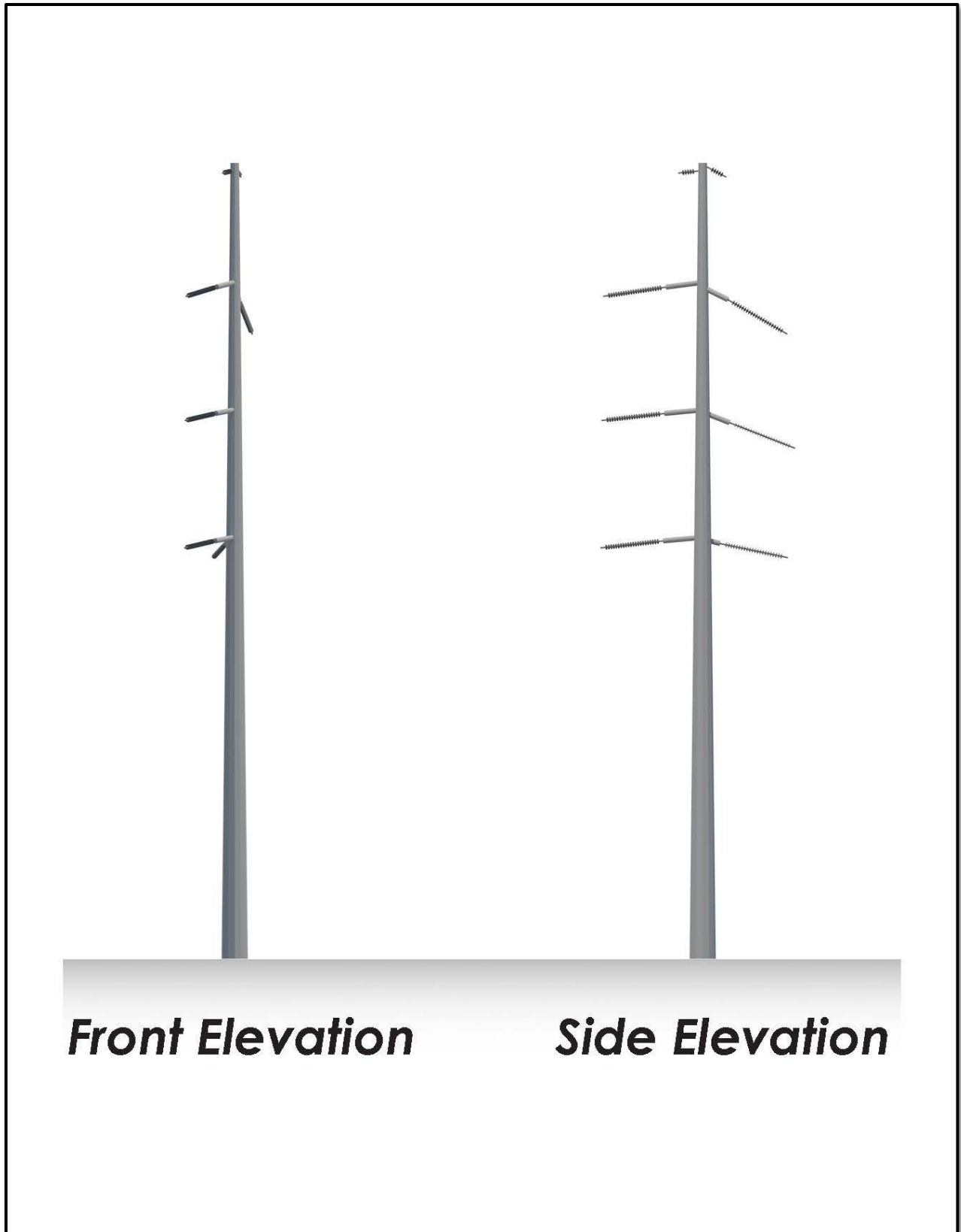


Exhibit G-4. 230 kV Monopole Structure #4.

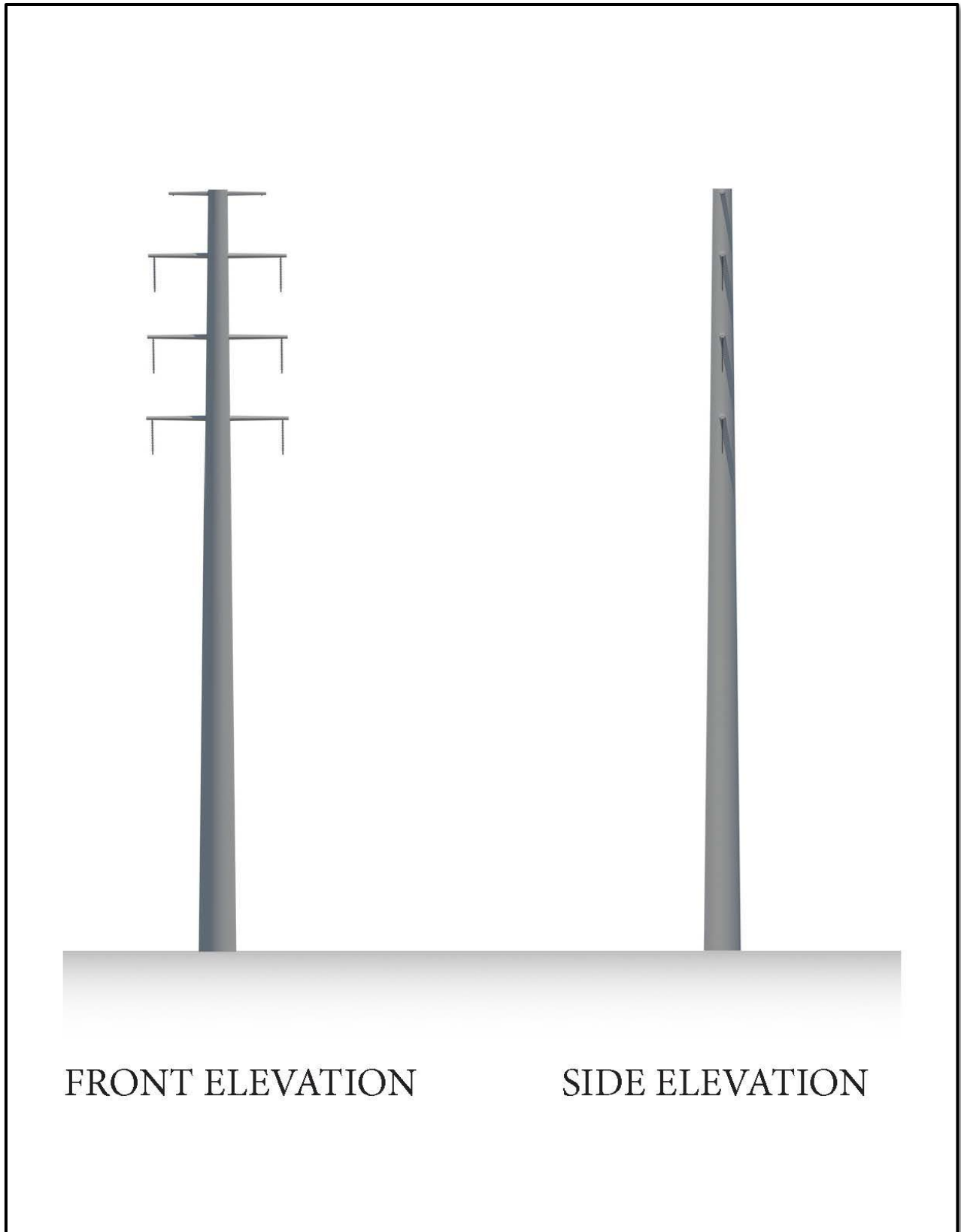


Exhibit G-5. 230 kV Monopole Structure #5.

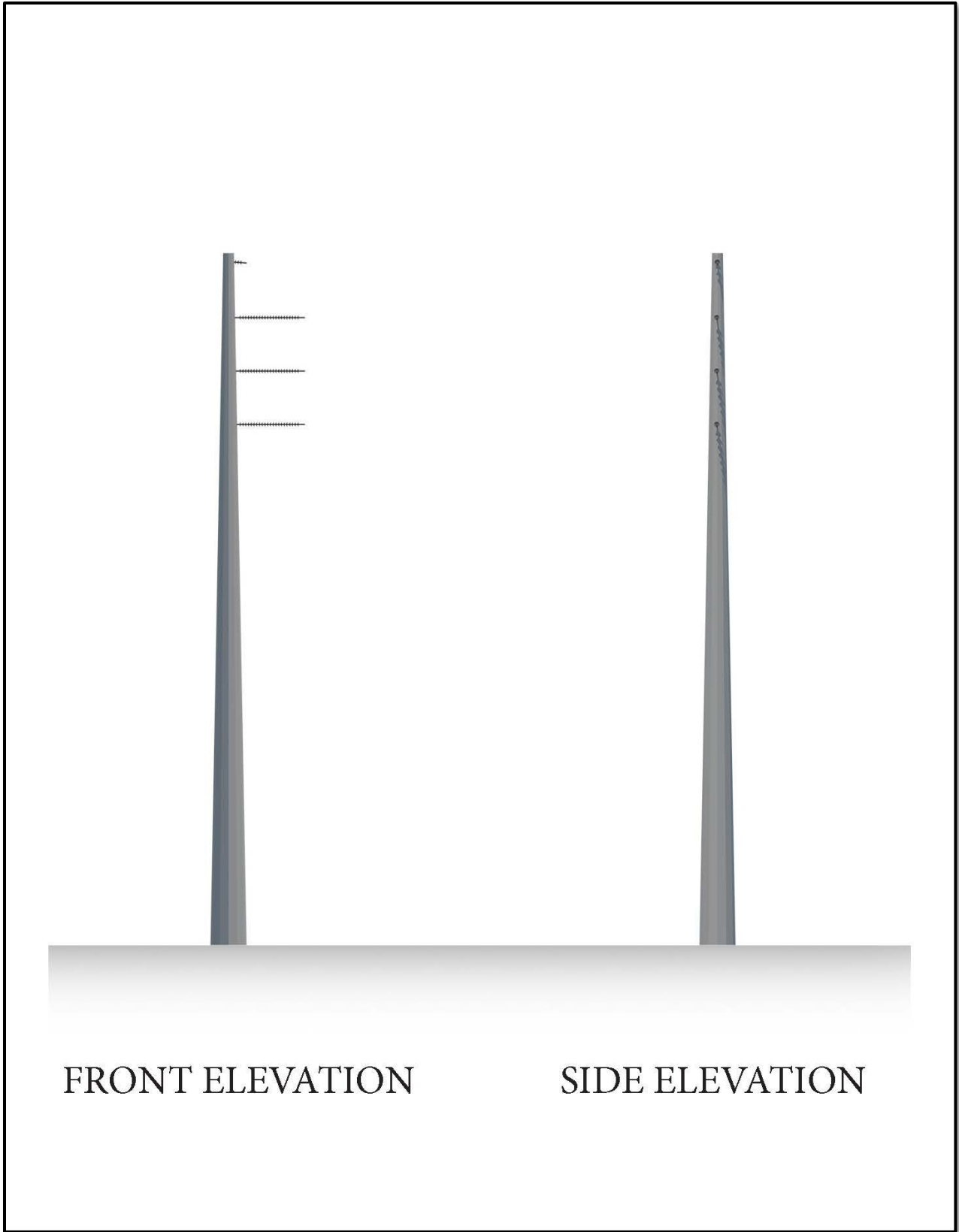


Exhibit G-6. 230 kV Monopole Structure #6.

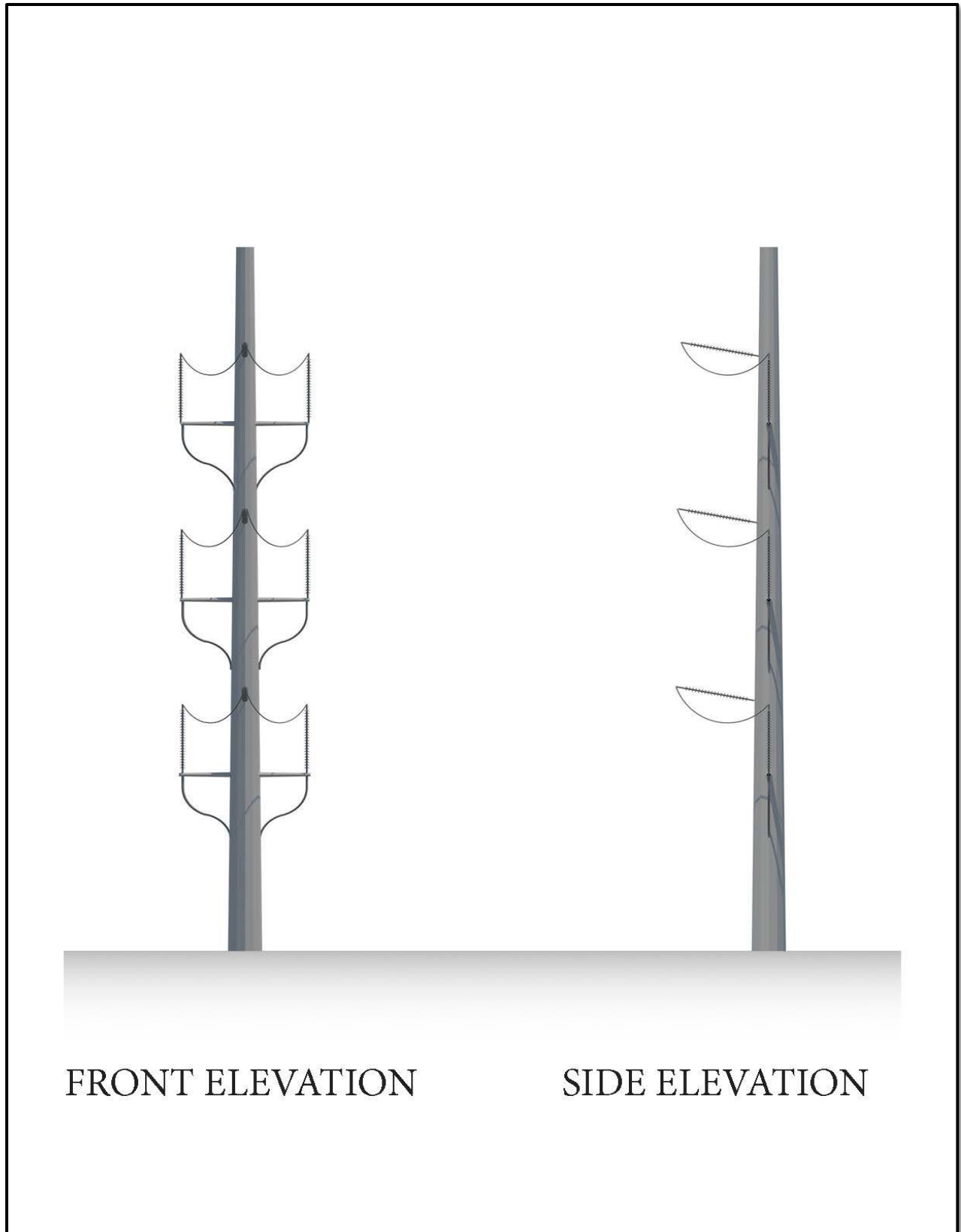


Exhibit G-7. 230 kV Monopole Structure #7.

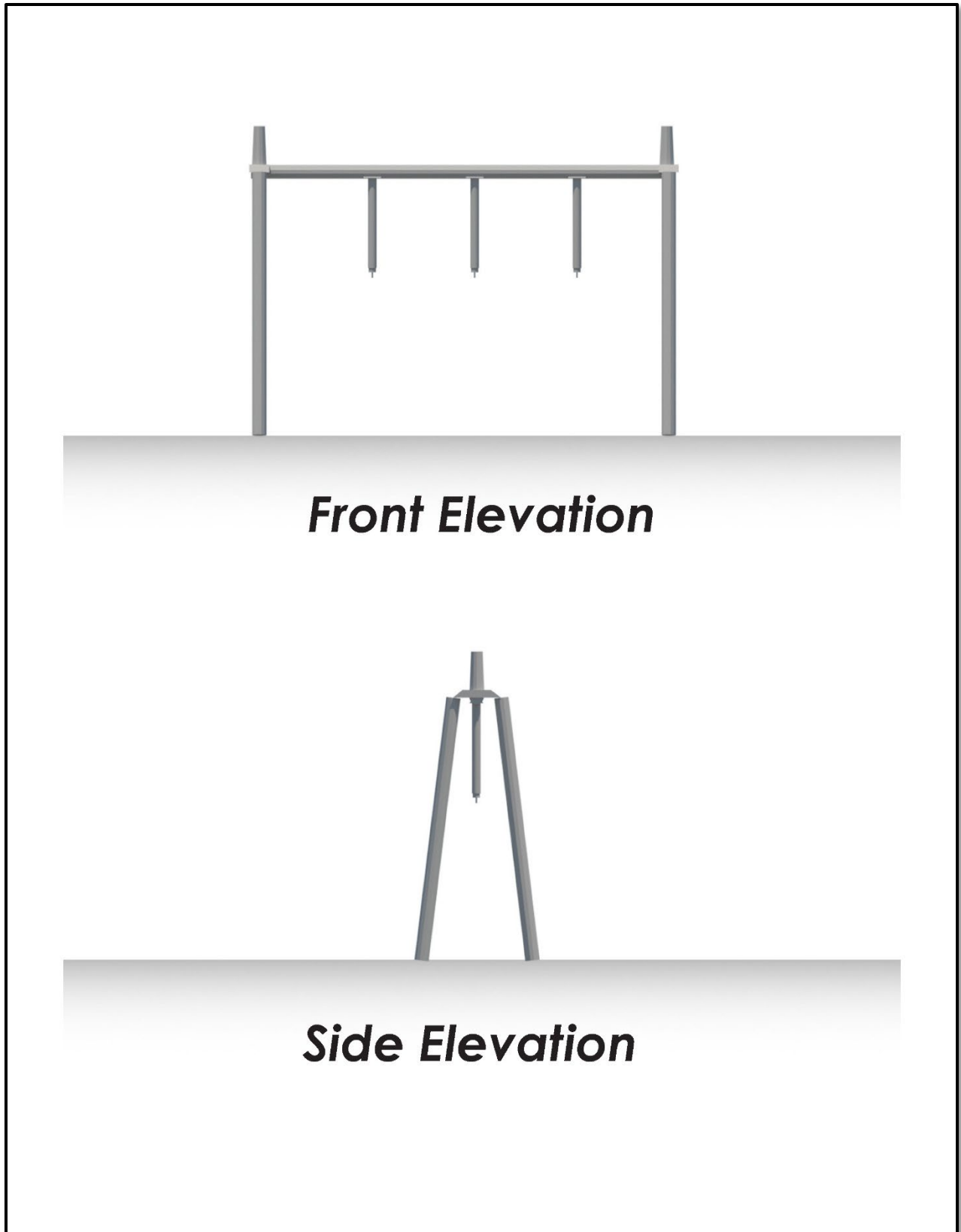


Exhibit G-8. 230 kV A-Frame Deadend Structure.



BrightNight Orchard Solar Project | October 2022
Simulation from KOP 1: View from E County 14th Street

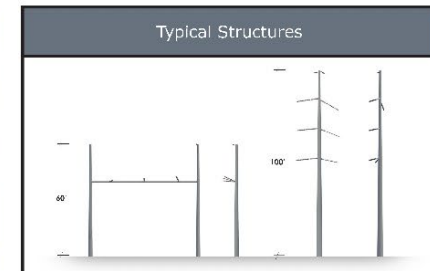
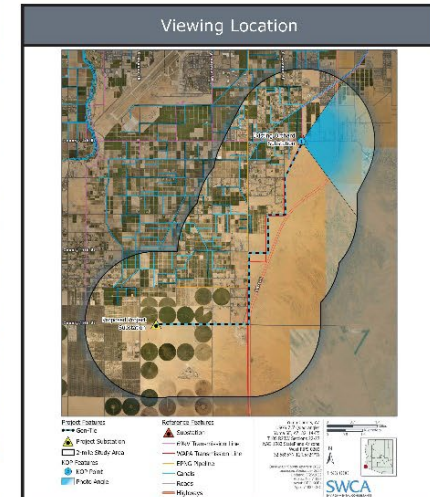


Photo Date and Time: August 11, 2022, 10:05 am
View Location: Approximate distance to nearest new structure from photo location is 0.05 miles.
 Simulations were prepared using information provided by BrightNight. Structure locations, colors, and heights may be different based on final engineering and design.



Exhibit G-9. Photosimulation of the Gen-Tie from KOP-1.



Existing Condition

KOP 2: View from E County 15th Street looking east



Simulated Condition

KOP 2: View from E County 15th Street looking east

BrightNight Orchard Solar Project | October 2022
Simulation from KOP 2: View from E County 15th Street

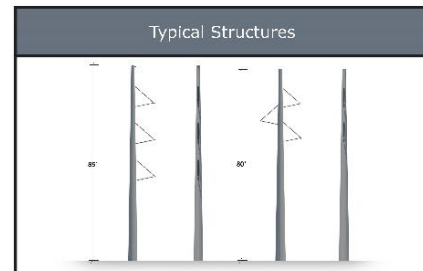
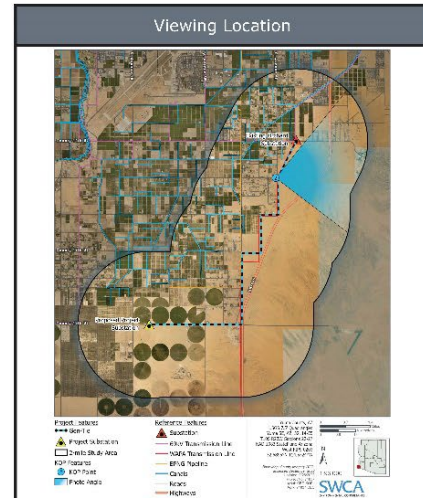


Photo Date and Time: August 11, 2022, 10:45 am

View Location: Approximate distance to nearest new structure from photo location is 0.06 miles.

Simulations were prepared using information provided by BrightNight. Structure locations, colors, and heights may be different based on final engineering and design.



Exhibit G-10. Photosimulation of the Gen-Tie from KOP-2.



Existing Condition

KOP 3: View from residence at E County 16th Street and S Avenue 4 1/2 E looking southeast



Simulated Condition

KOP 3: View from residence at E County 16th Street and S Avenue 4 1/2 E looking southeast

BrightNight Orchard Solar Project | October 2022

Simulation from KOP 3: View from residence at E County 16th Street and S Avenue 4 1/2 E

Viewing Location



Typical Structures

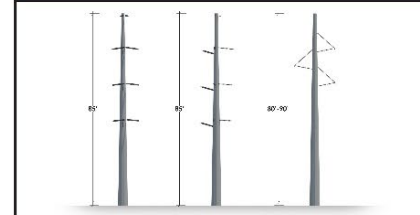


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View Location: Approximate distance to nearest new structure from photo location is 0.05 miles.

Simulations were prepared using information provided by BrightNight. Structure locations, colors, and heights may be different based on final engineering and design.

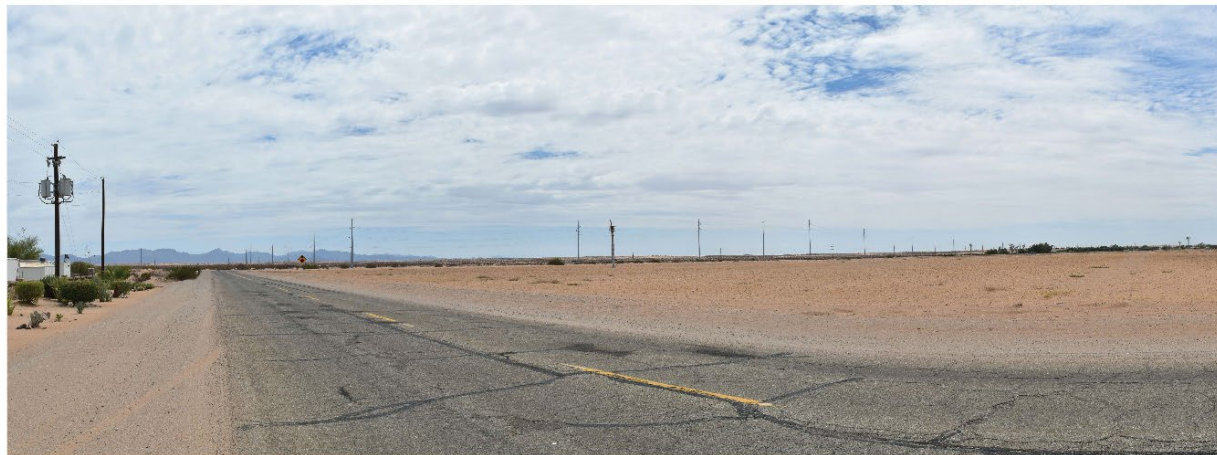


Exhibit G-11. Photosimulation of the Gen-Tie from KOP-3.



Existing Condition

KOP 4: View from residence at E County 17th Street looking southeast



Simulated Condition

KOP 4: View from residence at E County 17th Street looking southeast

BrightNight Orchard Solar Project | October 2022
Simulation from KOP 4: View from residence at E County 17 Street

Viewing Location



Typical Structures

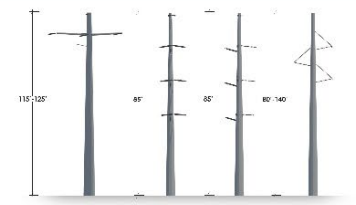


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View Location: Approximate distance to nearest new structure from photo location is 0.2 miles.

Simulations were prepared using information provided by BrightNight. Structure locations, colors, and heights may be different based on final engineering and design.



Exhibit G-12. Photosimulation of the Gen-Tie from KOP-4.

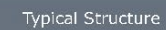
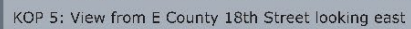


EXHIBIT H. EXISTING PLANS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

To the extent applicant is able to determine, state the existing plans of the state, local government and private entities for other developments at or in the vicinity of the proposed site or route.

Land use in the Study Area is mapped in Exhibits A-2 and A-3 and discussed in Exhibit B. As part of the land use study, SWCA Environmental Consultants (SWCA) reviewed the Yuma County 2020 Comprehensive Plan, the 2022 City of Yuma General Plan. In October 2022, SWCA mailed letters to a broad group of stakeholders (identified in Table H-1) to provide each with information about the Project and requesting information about existing plans for developments in the vicinity of the Gen-Tie. Exhibit H-1 provides a copy of the form letter sent to the entities listed in Table H-1. As of December, 2022, the Arizona Game and Fish Department and Yuma County Department of Development provided written replies to the October 2022, letter requesting information about existing plans (see Exhibits H-2 and H-3); neither reply identified existing plans for development in the vicinity of the proposed route.

The Applicant is aware that, in December 2021, the Yuma County Board of Supervisors issued a Special Use Permit for an organics recycling facility to be located at near the corner of East County 19th Street and South Avenue 1E (Yuma County 2021). Although the organics recycling facility has not yet been constructed, it would be an industrial land use and would be compatible, with the Project and the associated renewable energy development (i.e., the solar facility and green hydrogen plant).

The Applicant did not identify any other existing plans of the state, local government, or private entities for other developments. Therefore, the Project is compatible with known plans for development.


Table H-1. Entities that Received Letters with Project Information

Contact Name	Title	Jurisdiction/Agency/Entity
Ian McGaughey	County Administrator	Yuma County
Frank Sanchez, P.E.	County Engineer/Flood Control District	Yuma County Engineering Department
Craig Sellers	Director of Development Services	Yuma County Department of Development
Joshua Scott	Director of Public Works	Yuma County Department of Public Works
Lynda Bushong	City Clerk	City of Yuma
Alyssa Linville	Director of Planning and Neighborhood Services	City of Yuma
David Wostenberg	Engineering	City of Yuma
Bruce Fenske	District Administrator	Arizona Department of Transportation
Tyler Williford	Region IV Habitat, Evaluation, and Lands Program Supervisor	Arizona Game and Fish Department
Kathryn Leonard	State Historic Preservation Officer	Arizona State Historic Preservation Office
Mary Ellen Finch	Community Liaison Officer	Marine Corps Air Station - Yuma
Eduardo Uribe	Electrical Engineer	Western Area Power Administration, Desert Southwest Region

Contact Name	Title	Jurisdiction/Agency/Entity
Sean Berry	Environmental Manager	Western Area Power Administration, Desert Southwest Region
Jason Spitzkoff	Manager, Transmission Engineering	Arizona Public Service Company
		Yuma Mesa Irrigation & Drainage District

Literature Cited

Yuma County. 2021. Yuma County Board of Supervisors, December 6, 2021, Meeting, Final Minutes.
Available at:
<https://www.yumacountyaz.gov/home/showpublisheddocument/49731/637864803696000000>.
Accessed September 2022.



20 East Thomas Road, Suite 1700
Phoenix, Arizona 85012
Tel: 602.274.3931 Fax: 602.274.3958
www.swca.com

October 18, 2022

NAME
TITLE/ROLE
AGENCY/ORGANIZATION
ADDRESS LINE 1
CITY, STATE XXXXX

Re: Orchard Solar 230 kV Generation Intertie Transmission Line

Dear NAME:

BrightNight Power (BrightNight), a renewable energy company, plans to file an application for a Certificate of Environmental Compatibility (CEC) with the Arizona Power Plant and Transmission Line Siting Committee (Siting Committee) for a new generation intertie (gen-tie) transmission line in Yuma County, Arizona, referred to as the Orchard Solar 230 kV Generation Intertie Transmission Line (Project). The Project involves a new, approximately 9-mile, 230 kilovolt (kV) gen-tie transmission line that would be part of a larger solar energy facility known as the Orchard Renewable Power Project. The gen-tie would connect the Orchard Renewable Power Project to the regional power grid at the existing, Arizona Public Service (APS)-operated Orchard Substation. The gen-tie would predominately be located on the edge of the Barry M. Goldwater Military Range, west of State Route 195; the proposed route is shown on the enclosed map.

BrightNight and its consultant, SWCA Environmental Consultants (SWCA), conducted a comprehensive planning process, including environmental studies, to evaluate the proposed Project location. Our planning studies support that the Project, as shown on the attached map, follows a direct route to the existing Orchard Substation which would minimize the potential for environmental and community impacts. BrightNight plans to submit its CEC application in December 2022.

Arizona Administrative Code Rule R14-3-219 requires that CEC applications include an exhibit that identifies "the existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site or route."

Your organization is invited to provide information or written comments regarding development plans in the vicinity of the proposed Project (as depicted in the attached map). BrightNight requests that your comments be submitted in writing and specifically state your organization's existing or future plans for development.

For BrightNight to include your information with its CEC application, and present it to the Siting Committee for consideration, please forward your written comments to SWCA by November 8, 2022, via email at dean.hazle@swca.com, or by physical mail: Attn: Dean Hazle, SWCA, 20 East Thomas Road, Suite 1700, Phoenix, AZ 85012.

Thank you for your cooperation.

Sincerely,

Dean G. Hazle

Dean Hazle, Environmental Planner
SWCA Environmental Consultants

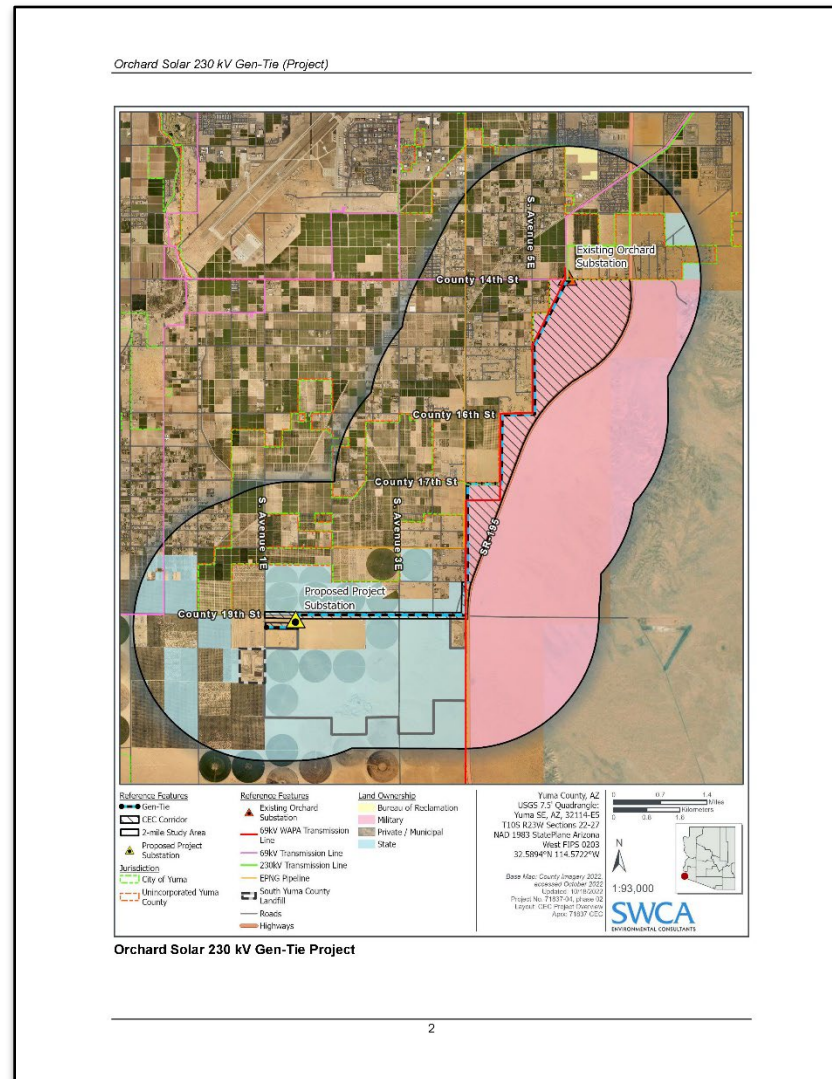


Exhibit H-1. Example October 2022 existing plans letter.

From: [Anson Lihosit](#)
To: [Dean Hazle](#)
Cc: [Anson Lihosit](#); [Maggie Castro](#)
Subject: YumaCounty_RFC_OrchardSolar230kVGenerationIntertieTransmissionLine
Date: Friday, November 4, 2022 1:46:58 PM
Attachments: [image001.png](#)
[SWCA Environmental Consultants - Orchard Solar 230 kV Generation Intertie Transmission Line.pdf](#)

EXTERNAL: This email originated from outside SWCA. Please use caution when replying.

Good afternoon Dean,

Following the review of the documents provided for the proposed Orchard solar 230 kV Generation Intertie Transmission Line project, Yuma County Department of Development Services staff comments are below:

Any work within county right-of-way will require an encroachment permit.

Thank you for the opportunity to review.

Cordially,

Anson K. Lihosit, AICP

Senior Planner

Department of Development Services/Planning & Zoning Division

2351 W. 26th Street Yuma, AZ 85364

Telephone: (928) 817-5090

Email: Anson.Lihosit@yumacountyaz.gov



Exhibit H-2. Written response from Yuma County Department of Development Services.



November 8, 2022

Mr. Dean Hazle
Environmental Planner
SWCA Environmental Consultants
20 East Thomas Road, Suite 1700
Phoenix, Arizona 85012

Electronically submitted to: dean.hazle@swca.com

RE: Orchard Solar 230 kV Generation Intertie Transmission Line

Mr. Hazle:

The Arizona Game and Fish Department (Department) appreciates the opportunity to review the Orchard Solar 230 kV Generation Intertie Transmission Line (Project), a new, approximately 9-mile, 230 kilovolt gen-tie transmission line located on the edge of the Barry M. Goldwater Military Range, west of State Route 195, in Yuma County, Arizona. The Department understands that BrightNight Power plans to file an application for a Certificate of Environmental Compatibility (CEC) with the Arizona Power Plant and Transmission Line Siting Committee for this project. The Department also understands that the project would connect a larger solar energy facility, known as the Orchard Renewable Power Project proposed to be located south of County 19th Street and west of State Route 195, to the regional power grid at the existing Arizona Public Service (APS)-operated Orchard Substation located north of County 14th Street between Avenue 5E and Avenue 6E.

Under Title 17 of the Arizona Revised Statutes, the Department, by and through the Arizona Game and Fish Commission, has jurisdictional authority and public trust responsibilities to conserve and protect the state fish and wildlife resources. In addition, the Department manages threatened and endangered species through authorities of Section 6 of the Endangered Species Act and the Department's Section 10(a)(1)(A) permit. It is the mission of the Department to conserve and protect Arizona's diverse fish and wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations. For your consideration, the Department provides the following comments based on the agency's statutory authorities, public trust responsibilities, and special expertise related to wildlife resources and recreation.

The project site contains potential flat-tailed horned lizard habitat, which is a Species of Greatest Conservation Need (SGCN) in Arizona. The species was proposed for listing under the Endangered Species Act (ESA) as Threatened in 1993 and withdrawn in 1997 in part due to a Candidate Conservation Agreement (CCA) and Rangewide Management Strategy (RMS) signed

azgfd.gov | 928.342.0091

YUMA OFFICE: 9140 E. 28TH ST., YUMA AZ 85365

GOVERNOR: DOUGLAS A. DUCEY COMMISSIONERS: CHAIRMAN JAMES E. GOUGHNOUR, PAYSON | TODD C. GEILER, PRESCOTT
CLAY HERNANDEZ, TUCSON | MARSHA PETRIE SUE, SCOTTSDALE | LELAND S. "BILL" BRAKE, ELGIN
DIRECTOR: TY E. GRAY DEPUTY DIRECTOR: TOM P. FINLEY

Orchard Solar 230 kV Generation Intertie Transmission Line

November 8, 2022

Page 2

in 1997. To lessen impacts and prevent the listing of flat-tailed horned lizards, the Department recommends following the *Flat-tailed Horned Lizard Rangewide Management Strategy*¹ (FTHLICC 2003), which provides guidelines for surveys, impact avoidance measures, and mitigation measures for this species.

The western burrowing owl, a special status species that is regulated under the Migratory Bird Treaty Act, may be present within the project area. If suitable habitat for this species is present (i.e. burrows in the ground), the Department recommends following the *Burrowing Owl Project Clearance Guidance for Landowners*² which can be accessed online through the Department's website. If an active burrowing owl burrow is detected, please contact the Department and the U.S. Fish and Wildlife Service for direction, in accordance with the *Burrowing Owl Project Clearance Guidance for Landowners*.

Additionally, the Department offers the following best management practices for wildlife and their habitat that may be affected by development of this area:

- Birds of prey such as raptors, owls, vultures, and eagles are vulnerable to electrocution and powerline strikes during construction and operation. There are a number of design features that can minimize these impacts to these important species. Tuk Jacobson is the Department's raptor expert and is available to share information on best management practices; he can be contacted at raptors@azgfd.gov or 623-236-7575.
- If trenching will occur for the proposed project, the Department recommends that trenching and backfilling crews be located close together to minimize the amount of open trenches at any given time. Where trenches cannot be back-filled immediately, the Department recommends escape ramps be constructed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The slope should be less than 45 degrees (1:1). Trenches that have been left open overnight should be inspected and animals removed prior to backfilling.
- Artificial lighting could impair the ability of nocturnal animals to navigate (e.g., owls, migratory birds, bats, and other nocturnal mammals), and may negatively affect reptile populations. The Department recommends using only the minimum amount of light needed for safety during construction activities. Motion sensing lighting and narrow spectrum lighting should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.
- The Department would also like to encourage private developers to use the *Arizona Online Environmental Review Tool*³ administered by the Department's Heritage Data Management System (HDMS) as part of their standard operating procedure for review of new construction and development. This tool is a useful resource that provides baseline information on special status species such as Arizona's Species of Greatest Conservation Need and Species of Economic and Recreational Importance. The Department entered this project as an example (please see the attached HDMS report).

¹ http://www.ecbweb.arizona.edu/Courses/Ecol406R_506R/FTHLStrategy03.pdf

² <https://www.azgfd.com/wildlife/speciesofgreatestconservationneed/raptor-management/burrowing-owl-management/>

³ <https://ert.azgfd.gov/>

Exhibit H-3a. Written response from Arizona Game and Fish Department.

November 8, 2022

Page 3

Thank you for the opportunity to provide comments on the proposed Orchard Solar 230 kV Generation Intertie Transmission Line Project. The Department looks forward to continued communications with BrightNight and SWCA regarding project development and implementation. Please contact Teigan Williams at tstruck@azgfd.gov or 928-341-4069 if you have any questions, or would like to further discuss our concerns and recommendations.

Sincerely,



Michael Sumner
Regional Supervisor - Yuma

cc: Teigan Williams, Habitat, Evaluation, and Lands Program Specialist - Region IV

AZGFD #M22-10263632

Exhibit H-3c. Written response from Arizona Game and Fish Department.

EXHIBIT I. NOISE AND INTERFERENCE

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

Describe the anticipated noise emission levels and any interference with communication signals which will emanate from the proposed facilities.

Exhibit I describes typical high-voltage transmission electrical and noise discharges, including corona discharge, audible noise, and electromagnetic fields (EMF). This exhibit also discusses acceptable noise discharges and expected impacts from the proposed Project.

Corona

Corona is a type of electrical discharge caused by the ionization of fluid, such as air, surrounding a conductor carrying high voltage (e.g., a 230 kV transmission line). Certain levels of corona are associated with all energized transmission lines. Its effects vary based on voltage, height of the conductors above ground, and meteorological conditions, among others. Irregularities on the surface of the conductor (e.g., nicks, scratches, insects, water droplets) can increase the amount of corona discharge. Consequently, during periods of rain and foul weather, corona discharges increase.

According to the Electric Power Research Institute (EPRI), under certain conditions, the localized electric field near an energized conductor can be sufficiently concentrated to produce a tiny electric discharge that can ionize air close to the conductors. This physical manifestation can transform and discharge energy into very small amounts of sound, radio noise, heat, and chemical reactions of the air components. Several factors, including conductor voltage, shape, diameter, and surface irregularities (i.e. scratches, nicks, and dust) can affect a conductor's electrical surface gradient and its corona performance (EPRI 1982). Because corona effects are very localized and minor, corona effects are expected to be negligible for residences, recreational users, and other individuals within the Study Area.

Audible Noise

Audible noise is directly related to the amount of corona discharged from a conductor. When corona is discharged, a small audible noise is released. During wet or foul weather conditions the noise increases because the water droplets intake and release electrical discharges, creating a faint crackling or humming noise (EPRI 1982).

Historically, measurements along similar transmission corridors within similar environments (open desert) have shown typical ambient audible noise levels in the range of 43 to 52 A-weighted decibels (dBA) with an average of 50 dBA (EPRI 1982). A typical measurement of audible sounds ranges between 0 decibels (dB) and 120 dB, with noises over 120 dB having the potential to harm the human eardrum. Table I-1 shows reference noise sources and the sound levels in dBA associated with each (U.S. Department of Health and Human Services 2021).

Table I-1. Approximate dBA Levels from Typical Events

Event	A-weighted Decibels (dBA)
Fireworks show	140–160
Jet taking off	140
Emergency vehicle sirens	110–129
Headphones, sporting events, and concerts	94–110
Motorcycle or lawnmower	80–110
Normal conversation	60–70
Whisper	20–30

Note: This table assumes a typical distance of the listener from each scenario. For example, a whisper or starting a lawn mower would occur within 3 feet of the listener. A listener watching a fireworks show or a jet take off would be within approximately 200 feet.

Because audible noise levels associated with corona discharge of transmission lines are approximately 50 dBA or less (less than a normal conversation), it is usually not a design issue for power lines rated at 230 kV and lower. Even in wet or foul weather conditions, which could increase corona discharge, the audible noise from a 230 kV transmission line would still be less than the range of dBA from a normal conversation. Because of this low dBA range, it would be hard for individuals to hear audible noise unless within feet of the proposed Project; therefore, effects are expected to be negligible on residences, recreational users, and other individuals within the Study Area.

Radio Interference

As a general rule, overhead transmission lines do not interfere with normal radio or television reception. Two potential sources for interference come from transmission lines: corona and gap discharges. Gap discharges are usually associated with low-voltage distribution lines and are most commonly caused by loose hardware on the transmission line or its structures. These account for a large percentage of all interference problems and are easily remedied (California Public Utilities 2005).

Corona discharge interference depends on several factors including distance from the line to the receiver, radio signal strength, ambient radio noise level, receiving antenna orientation, and meteorological conditions. Radio interference is primarily correlated to voltage. The Study Area contains other transmission lines of similar voltage. The Project is not expected to contribute to or cause radio interference.

Television Interference

Corona-caused television interference usually occurs during foul weather and is generally of concern for transmission lines with voltages of 345 kV or above, and only for conventional receivers within about 600 feet of a line. Similar to radio interference, gap discharges of low-voltage transmission lines associated with loose hardware are the main sources of television interference (Bonneville Power Administration 1994). Impacts to television interference are expected to be negligible because the Project is under 345 kV and transmission interference levels are expected to be similar to several other high-voltage transmission lines within the Study Area.

Electric Fields

According to the National Institute of Environmental Health Sciences (NIEHS), EMF are naturally occurring when any substance has an electrical current running through it, including power lines, electrical wiring, and other electrical equipment. Electric and electromagnetic fields are found naturally

occurring in the world in the range of 12 to 150 kV/m. Generally, electric fields decrease as distance from the source increases. Electric fields created by televisions and other video display units typically occur in the range of 20 kV/m (NIEHS 2002).

As shown in Exhibit I-1, electric fields related to 230 kV transmission lines usually occur in the range of 1.5 kV/m at a distance of 50 feet, dropping to 0.3 kV/m at 100 feet, 0.05 kV/m at 200 feet, and 0.01 kV/m or less at 300 feet or more from the transmission line. Where the Gen-Tie parallels public roadways, exposures to individual traveling on those roadways are anticipated to be transient and short in duration. As previously noted, most of the Gen-Tie would traverse the BMGR, which is not accessible to the public.

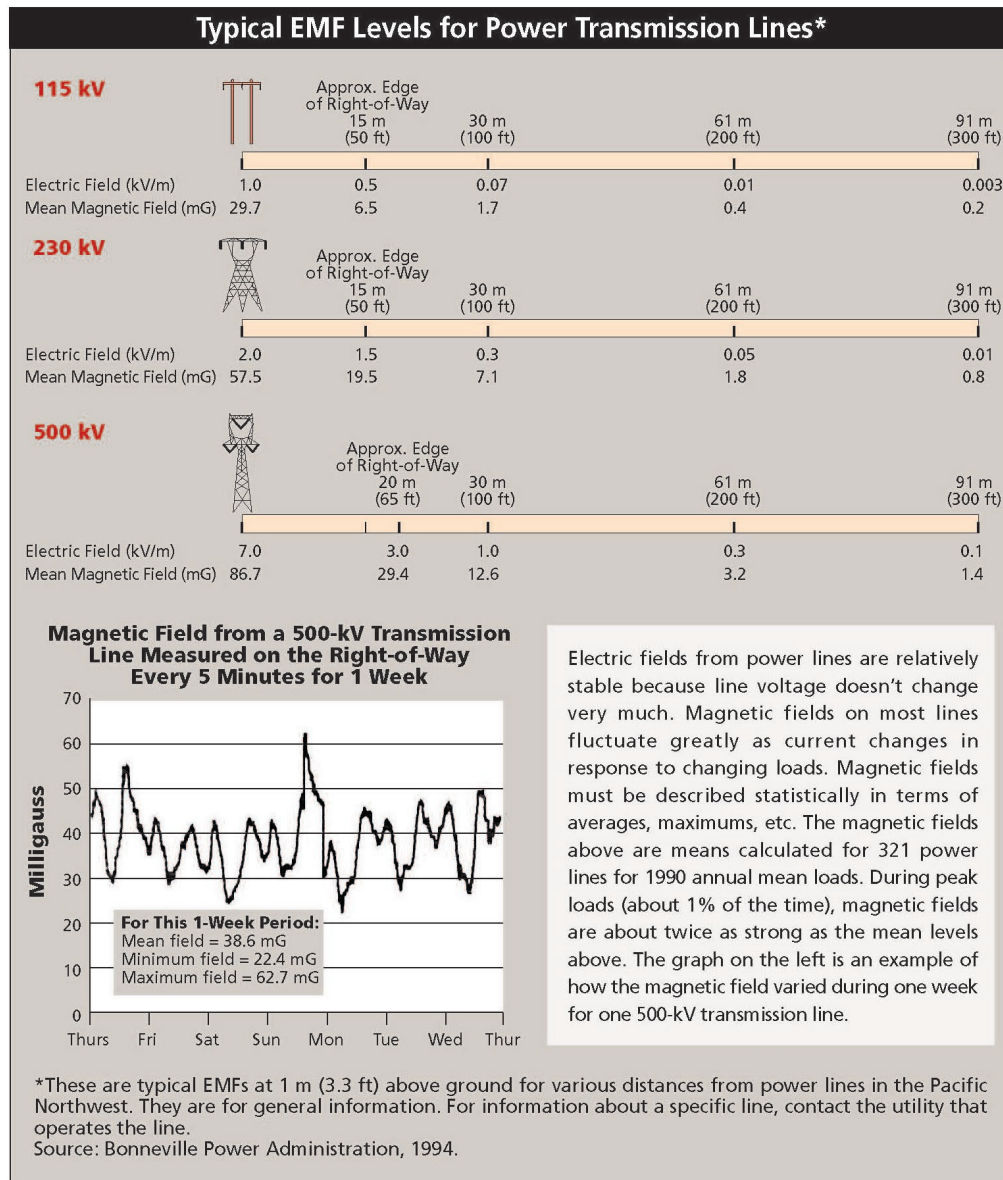


Exhibit I-1. Typical EMF levels for power transmission lines.

Construction, Operation, and Maintenance Noise

Construction noise would be predominately related to the operation of heavy equipment used for constructing the transmission line itself. All construction associated with the proposed Project would be temporary; the Applicant would comply with any work hour restrictions imposed through building permit conditions, issued by Yuma County or the City of Yuma. Operation and maintenance noise would be minimal and temporary, occurring as necessary throughout the life of the Project.

Literature Cited

- Bonneville Power Administration. 1994. *Electrical and Biological Effects of Transmission Lines: A Review*. DOE/BP 2938 December 1996 1M. Portland, Oregon.
- California Public Utilities. 2005. *Chapter 16: Corona and Induced Current Effects*.
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- National Institute of Environmental Health Sciences (NIEHS). 2002. *Electric and Magnetic Fields Associated with the Use of Electric Power*. Available at:
https://www.niehs.nih.gov/health/materials/electric_and_magnetic_fields_associated_with_the_use_of_electric_power_questions_and_answers_english_508.pdf
- U.S. Department of Health and Human Services. 2021. National Institutes of Health. National Institute of Deafness and Other Communication Disorders. *It's A Noisy Planet, Protect Their Hearing*. Available at: <https://www.noisyplanet.nidcd.nih.gov/parents/too-loud-too-long#:~:text=Sounds%20at%20or%20below%2070,greater%20risk%20for%20hearing%20loss.>

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EXHIBIT J. SPECIAL FACTORS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

Describe any special factors not previously covered herein, which applicant believes to be relevant to an informed decision on its application.

Introduction

This exhibit describes the public and agency involvement program that the Applicant conducted for the Project. The outreach efforts described below were design to provided Project information to agencies and individuals and to solicit comments, questions, and feedback about the Project.

Public Involvement Program Summary

The Applicant and SWCA Environmental Consultants (SWCA) (the Project team) initiated the public involvement program to provide local jurisdictions, relevant agencies, and residents in the Study Area with the opportunity to relay information or potential concerns. The program followed a comprehensive communication strategy designed to solicit questions, comments, and feedback from as many stakeholders within the Study Area. The public involvement program included the following items, each described in more detail below: jurisdictional and agency briefings, newsletter mailings, newspaper and Facebook advertisements, a virtual open house, the Project website, and a dedicated customer telephone line and email address.

Through its public outreach program, the Applicant endeavored to educate the community stakeholders on several key points: 1) the location and characteristics of the Gen-Tie, 2) the benefits of the Project and the associated renewable energy development, and 3) key permitting and construction milestones, including the Certificate of Environmental Compatibility process.

BRIEFINGS FOR AGENCY AND LOCAL OFFICIALS

Throughout the Project's development, the Applicant briefed various public officials (e.g., Yuma County, relevant state agencies) and elected officials on the Project's purpose, scope, and development timeline. In general, the purpose of the briefings was to provide information on the Project, answer questions, and request feedback. These meetings enabled the Applicant to identify stakeholder issues, consider suggestions during the planning process, and relay information on developments in the Project.

A list of agency and other stakeholder meetings is included as Table J-1.

Table J-1. Stakeholder Briefings

Stakeholder/Jurisdiction/Representation	Briefing Date
Yuma County Planning & Zoning Division	August 3, 2022
Individual meetings with County Supervisors Simmons	September 7-8, 2022
Arizona Game and Fish Department	September 19, 2022
Southwest Gas	October 31, 2022
MCAS-Yuma	November 2, 2022
MCAS-Yuma & Western Area Power Administration	November 30, 2022
Shuck Drilling	November 2, 2022

In addition, the Applicant has held regular meetings with representatives from the Arizona State Land Department.

PROJECT NEWSLETTERS

The public involvement program included mailing newsletters to addresses within 2 miles of the Gen-Tie to introduce the Project, notify community members about the planned in-person open house, and provide contact information for the Project team. The Project team developed a comprehensive mailing list that includes property owners (from the Yuma County Assessor's Office database) and physical addresses to reach tenants in the Study Area. The mailing list also included key stakeholders, such as relevant municipal and county departments, utility officials, homeowners' associations, and state and federal agency officials. In total, the mailing list includes approximately 2,500 addresses.

The Project team sent an initial newsletter in October 2022, approximately 3 weeks before the in-person open house, to announce the Project and request comments. The Applicant plans to send an additional letter to announce the time and location of CEC hearings and any relevant Project updates.

Newsletter One

The Project team mailed the first newsletter on October 6, 2022, to approximately 2,300 residents, businesses, landowners, agencies, and key stakeholders within 2-mile Study Area. The purpose of Newsletter One was to announce the Project, provide notice of the in-person open house (schedule for October 26, 2022), request comments, and provide key contact information for the Project team. Specifically, the letter included event details for the open house, a web address for a Project-specific website, a physical mailing address for comments, and a dedicated Project phone number and email address to reach the Project team and submit comments. The letter also included a brief description of the Project's purpose and need, an overview of the siting process, and a "Project Overview" map. A Spanish translation of Newsletter One was included in the mailing. A copy of the first newsletter is included as Exhibits J-1a and J-1b.

Subsequent to mailing Newsletter One, the need for a short extension of the Gen-Tie to the south and west was identified. Specifically, a 230 kV power supply for the green hydrogen plant necessitated an extension of the Gen-Tie approximately 900 feet south and 2,300 feet west. The Project team made a corresponding adjustment to the Study Area and mailing list. On October 20, 2022, approximately 165 additional letters were mailed to property owners and tenants in the expanded Study Area. A copy of the supplemental newsletter is included as Exhibits J-2a and J-2b.

Future Newsletter Two

The Applicant plans to mail a second newsletter in January 2022 that will again describe the Project and announce the location, date, and time of the Project's Siting Committee hearings. This mailing will be sent to individuals on the mailing list used in the previous newsletter mailing.

NEWSPAPER AND FACEBOOK ADVERTISEMENTS

The Applicant purchased display advertisements with the *Yuma Sun*, a local newspaper of general circulation in the Study Area. The purpose of the newspaper advertisements was to announce the Project, provide notice of the in-person open house, and provide key contact information for the Project team. In addition, the advertisement included a Project-specific website address, a physical mailing address, and a dedicated Project phone number and email address. Advertisements were published in the *Yuma Sun* on October 19 and October 23, 2022, prior to the in-person open house. Copies of the advertisements are included as Exhibits J-3a and J-3b.

The Applicant also placed paid advertisements on Facebook, with a target distribution area of 3 miles around the Project. The Facebook advertisement was from October 11 to October 26, 2022. An image of the Facebook advertisement is included as Exhibit J-4. The Applicant endeavored to reply to each question left on the Facebook advertisement and provide additional information in response to comments where it could be helpful or useful. An exception to this was where comments were off-topic or derogatory (the latter of which were few). Advertising metrics provided by Facebook indicate that the ad received approximately 6,000 "impressions" and 375 clicks during the period it was live. Individuals that clicked the link contained in the advertisement were directed to the Project website, where Open House event details and Project information was available.

IN-PERSON OPEN HOUSE

The Applicant hosted an in-person open house for the Project on October 26, 2022. The open house was held at the Holiday Inn Yuma (1901 East 18th Street, Yuma, Arizona, 85365) from 5:00 p.m. to 7:00 p.m. As noted above, the open house was advertised to the community through direct mailings, newspaper advertisements, and Facebook advertisements.

The format of the meeting was an open house with informational display boards and key members of the Project team available to answer questions. The meeting format allowed community members to attend at their convenience and have direct communication with members of the Project team. Members of the Project team, including YUMA bn, LLC's lead developer, were available at the open house to listen to the attendees and answer questions. The Project team set up 20 poster-sized foamboards, which included information about the Gen-Tie and the associated renewable energy development. Display boards contained information about Project developers; the need for and benefits of the overall development, including the Gen-Tie; photorealistic visual simulations of the Gen-Tie; and a map series of the Gen-Tie route. Images of the display boards are included in Exhibits J-5a through J-5s. In addition, informational handouts, including a fact sheet and a 1-page overview of electric and magnetic fields (EMF) from transmission lines, were available. Images of the handouts are included in Exhibit J-6a and J-6b.

Approximately 15 individuals attended the meeting. A sign-in sheet and comment cards were available for attendees. A copy of the sign-in sheet is included as Exhibit J-7; a blank comment card is included as Exhibit J-8.

WEBSITE

The Applicant created and maintained a dedicated Project website (brightnightpower.com/orchard/) to provide information about the Gen-Tie and the accompanying renewable energy development. The website included contact information for key members of the Project team, information about the benefits of the associated renewable energy development, event details for the in-person open house, and other general information about the Project. The website address was included in newsletters, open house display boards, paid newspaper advertisements, and the Facebook advertisement. A copy of this website is included in Exhibits J-9a and 9b.

DEDICATED TELEPHONE LINE AND EMAIL

The Project team created a dedicated Project voicemail (928-275-5830) and email address (OrchardSolarCEC@swca.com). The voicemail recording included basic Project information, including a website address for the virtual open house, and invited interested parties to leave comments or questions. The telephone number was provided in the newsletter mailings, the newspaper advertisements, the Project website, and on display boards at the open house. The Project team continuously monitored the Project voicemail and email account and endeavored to reply to inquiries within 2 business days.

PUBLIC COMMENT

Throughout the public involvement program, comments from the public were solicited and considered in the planning process. As part of the public involvement program, comments were received from at least 3 individuals and were received either by written comment form, email, or voicemail. Comments from agency and jurisdiction representatives were also received and considered in the planning process.

Most comments received were questions about the location and look of the Project, along with questions about the Project need, and how the Project may impact health and safety within the Study Area.

A listing of the comments, including the Applicant's responses where applicable, is included as Table J-2.

Table J-2. Comments Received

Commentor ID#	Received Through	Comment	Applicant Response
1	Voicemail	10/11/2022, voicemail summary: Mr. Scott indicated that he has a question regarding the Gen-Tie and requested a call back. Mr. Scott also indicated that he plans to attend the open house on 10/26/2022	10/12/2022: Brandon Pollpeter (BrightNight) returned Mr. Scott's call. Brandon answered Mr. Scott's factual questions about the proposed location of the gen-tie and invited him to attend the open house, were additional information will be available. Mr. Scott indicated he was satisfied with the reply.
2	Voicemail	11/1/2022, voicemail summary: Mr. Bean indicated that he has a few questions about where the line will be located.	11/4/2022: Brandon Pollpeter (BrightNight) returned Mr. Bean's call. Brandon answered Mr. Bean's factual questions about the proposed location of the gen-tie. Mr. Bean was appreciative of the call back and expressed support for the project, overall.
3	Email	11/1/2022, email: "You indicate access to the existing power plant (Yucca, think) on County 14th street, do you currently have permission to cross the Barry Goldwater Range?"	<p>11/4/2022, email reply:</p> <p>Good Afternoon,</p> <p>I hope this finds you well</p> <p>Thank you for your interest in our project. The proposed generation tie-in ("gen-tie") will be a 230 kV transmission line running generally north/south with grid connection at APS's Orchard substation located on the north side of County 14th Street. BrightNight has been working closely with Marine Corps Air Station Yuma (MCAS-Yuma) on this project as the majority of this gen-tie is proposed to be located on lands which they manage.</p> <p>Please let me know if you may have any other questions that I may be able to answer for you.</p> <p>Best Regards,</p> <p>Brandon Pollpeter</p> <p>Director, Development</p>

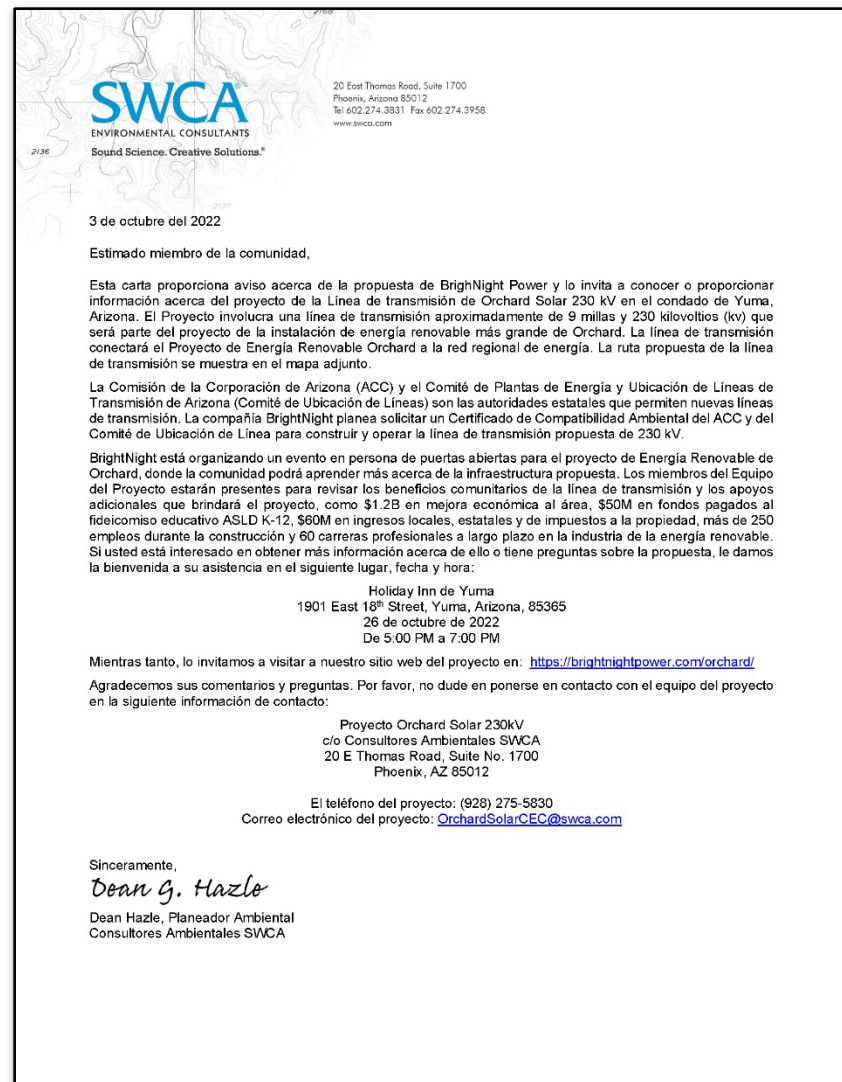
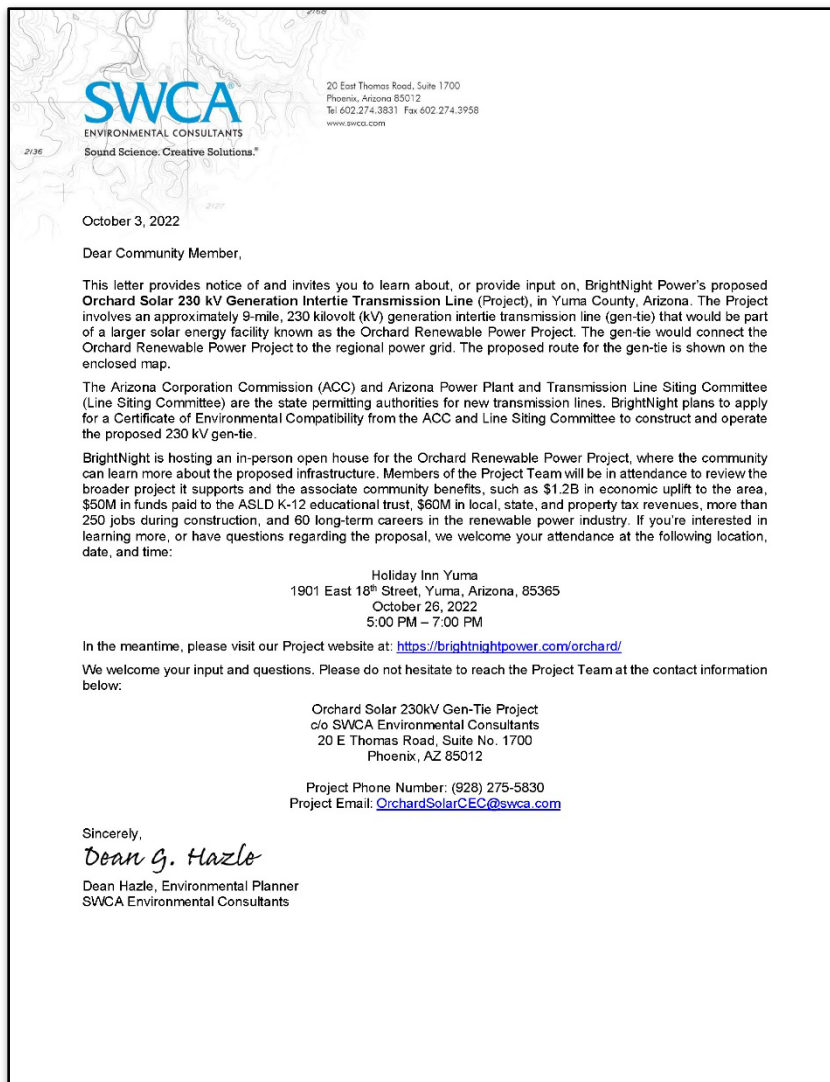


Exhibit J-1a. Project Newsletter One.

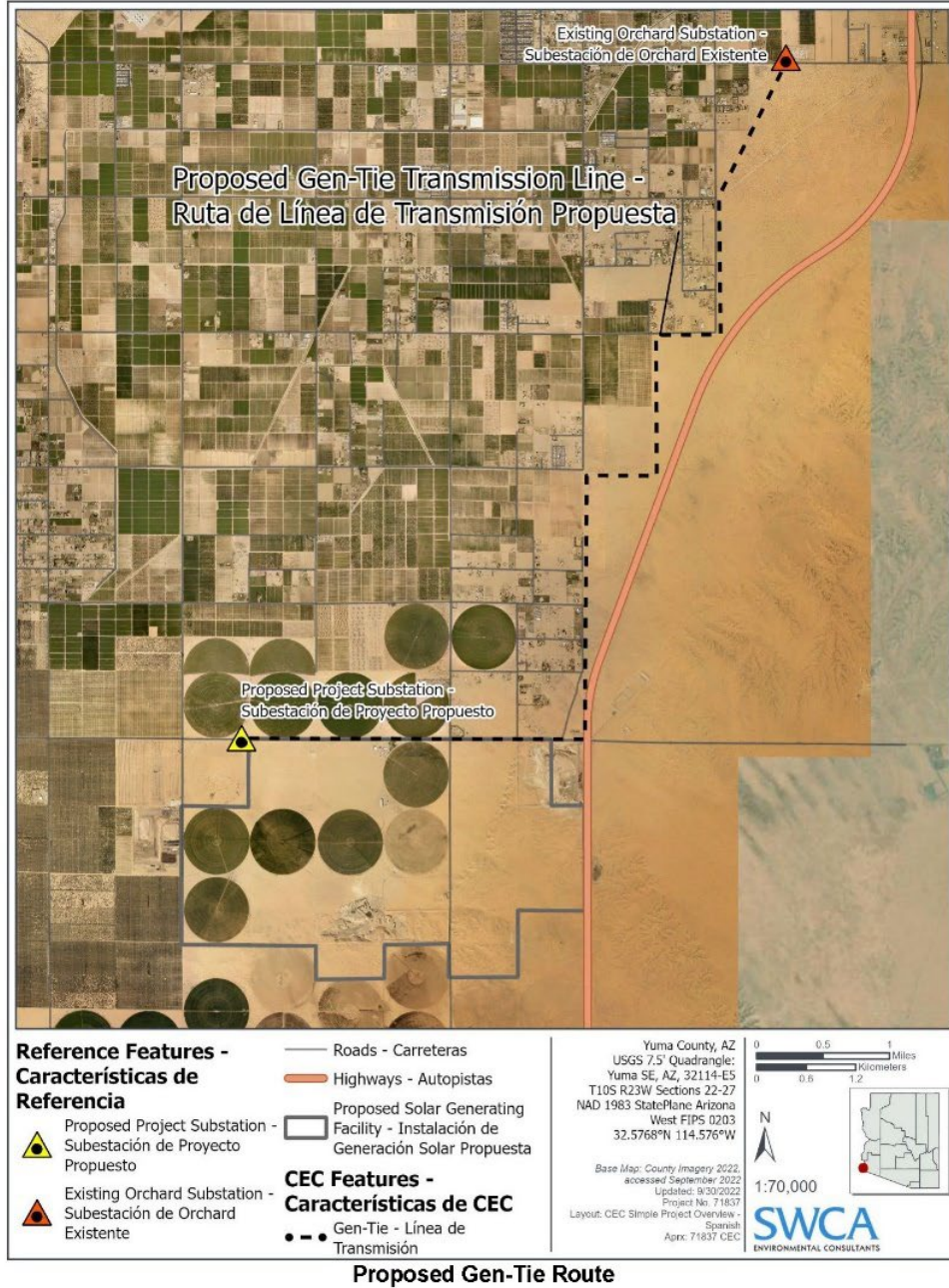


Exhibit J-1b. Project Newsletter One.



ENVIRONMENTAL CONSULTANTS

Sound Science. Creative Solutions.®

20 East Thomas Road, Suite 1700
Phoenix, Arizona 85012
Tel 602.274.3831 Fax 602.274.3958
www.swca.com

October 19, 2022

Dear Community Member,

This letter provides notice of and invites you to learn about, or provide input on, BrightNight Power's proposed **Orchard Solar 230 kV Generation Intertie Transmission Line (Project)**, in Yuma County, Arizona. The Project involves an approximately 9-mile, 230 kilovolt (kV) generation intertie transmission line (gen-tie) that would be part of a larger solar energy facility known as the Orchard Renewable Power Project. The gen-tie would connect the Orchard Renewable Power Project to the regional power grid. The proposed route for the gen-tie is shown on the enclosed map.

The Arizona Corporation Commission (ACC) and Arizona Power Plant and Transmission Line Siting Committee (Line Siting Committee) are the state permitting authorities for new transmission lines. BrightNight plans to apply for a Certificate of Environmental Compatibility from the ACC and Line Siting Committee to construct and operate the proposed 230 kV gen-tie.

BrightNight is hosting an in-person open house for the Orchard Renewable Power Project, where the community can learn more about the proposed infrastructure. Members of the Project Team will be in attendance to review the broader project it supports and the associate community benefits, such as \$1.2B in economic uplift to the area, \$50M in funds paid to the ASLD K-12 educational trust, \$60M in local, state, and property tax revenues, more than 250 jobs during construction, and 60 long-term careers in the renewable power industry. If you're interested in learning more, or have questions regarding the proposal, we welcome your attendance at the following location, date, and time:

Holiday Inn Yuma
1901 East 18th Street, Yuma, Arizona, 85365
October 26, 2022
5:00 PM – 7:00 PM

In the meantime, please visit our Project website at: <https://brightnightpower.com/orchard/>

We welcome your input and questions. Please do not hesitate to reach the Project Team at the contact information below:

Orchard Solar 230kV Gen-Tie Project
c/o SWCA Environmental Consultants
20 E Thomas Road, Suite No. 1700
Phoenix, AZ 85012

Project Phone Number: (928) 275-5830
Project Email: OrchardSolarCEC@swca.com

Sincerely,

Dean G. Hazle

Dean Hazle, Environmental Planner
SWCA Environmental Consultants

Exhibit J-2a. Supplemental newsletter.



ENVIRONMENTAL CONSULTANTS

Sound Science. Creative Solutions.®

20 East Thomas Road, Suite 1700
Phoenix, Arizona 85012
Tel 602.274.3831 Fax 602.274.3958
www.swca.com

19 de octubre del 2022

Estimado miembro de la comunidad,

Esta carta proporciona aviso acerca de la propuesta de BrightNight Power y lo invita a conocer o proporcionar información acerca del proyecto de la Línea de transmisión de Orchard Solar 230 kV en el condado de Yuma, Arizona. El Proyecto involucra una línea de transmisión aproximadamente de 9 millas y 230 kilovoltios (kv) que será parte del proyecto de la instalación de energía renovable más grande de Orchard. La línea de transmisión conectará el Proyecto de Energía Renovable Orchard a la red regional de energía. La ruta propuesta de la línea de transmisión se muestra en el mapa adjunto.

La Comisión de la Corporación de Arizona (ACC) y el Comité de Plantas de Energía y Ubicación de Líneas de Transmisión de Arizona (Comité de Ubicación de Líneas) son las autoridades estatales que permiten nuevas líneas de transmisión. La compañía BrightNight planea solicitar un Certificado de Compatibilidad Ambiental del ACC y del Comité de Ubicación de Línea para construir y operar la línea de transmisión propuesta de 230 kV.

BrightNight está organizando un evento en persona de puertas abiertas para el proyecto de Energía Renovable de Orchard, donde la comunidad podrá aprender más acerca de la infraestructura propuesta. Los miembros del Equipo del Proyecto estarán presentes para revisar los beneficios comunitarios de la línea de transmisión y los apoyos adicionales que brindará el proyecto, como \$1.2B en mejora económica al área, \$50M en fondos pagados al fideicomiso educativo ASLD K-12, \$60M en ingresos locales, estatales y de impuestos a la propiedad, más de 250 empleos durante la construcción y 60 carreras profesionales a largo plazo en la industria de la energía renovable. Si usted está interesado en obtener más información acerca de ello o tiene preguntas sobre la propuesta, le damos la bienvenida a su asistencia en el siguiente lugar, fecha y hora:

Holiday Inn de Yuma
1901 East 18th Street, Yuma, Arizona, 85365
26 de octubre de 2022
De 5:00 PM a 7:00 PM

Mientras tanto, lo invitamos a visitar a nuestro sitio web del proyecto en: <https://brightrightpower.com/orchard/>

Agradecemos sus comentarios y preguntas. Por favor, no dude en ponerse en contacto con el equipo del proyecto en la siguiente información de contacto:

Proyecto Orchard Solar 230kV
c/o Consultores Ambientales SWCA
20 E Thomas Road, Suite No. 1700
Phoenix, AZ 85012

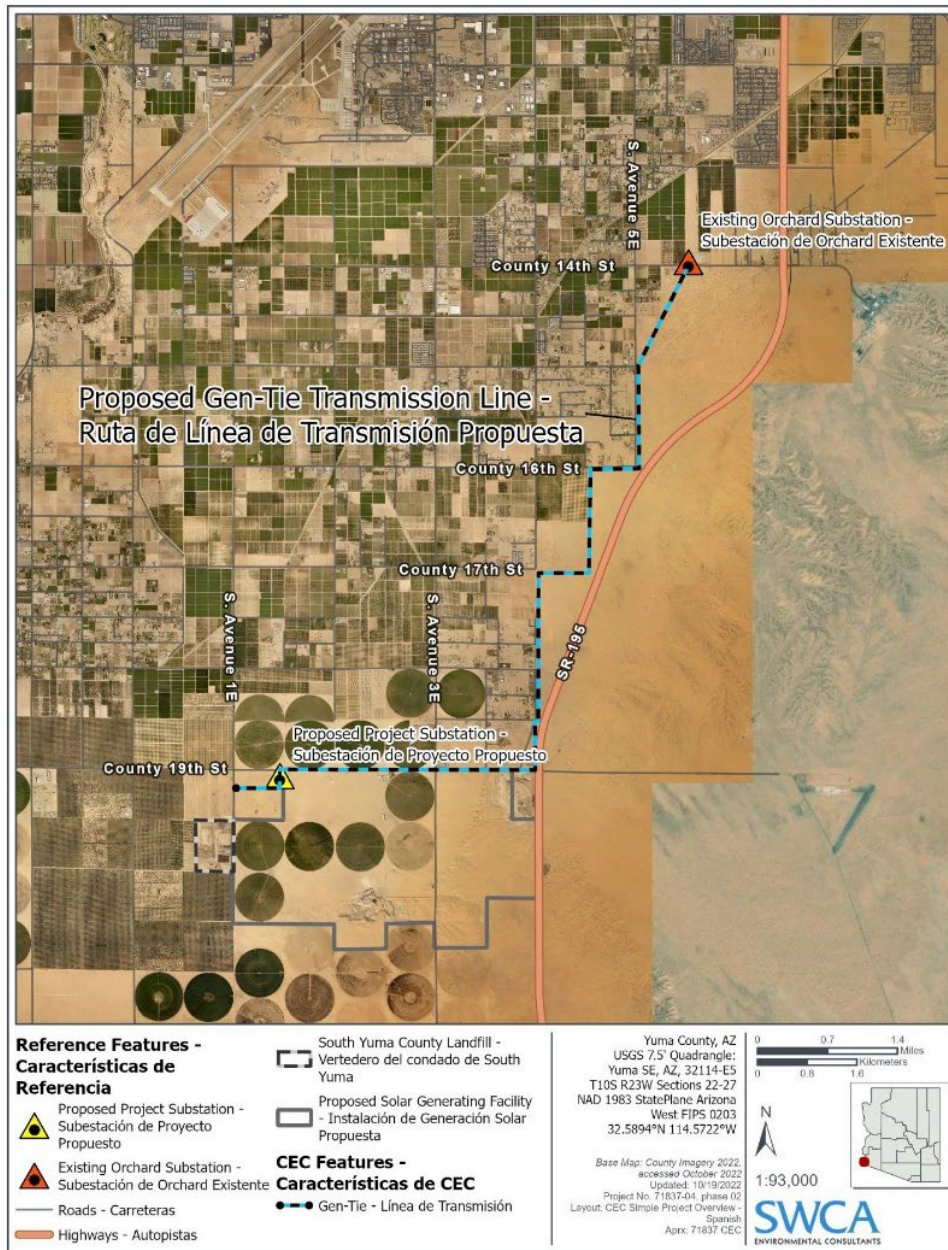
El teléfono del proyecto: (928) 275-5830
Correo electrónico del proyecto: OrchardSolarCEC@swca.com

Sinceramente,

Dean G. Hazle

Dean Hazle, Planeador Ambiental
Consultores Ambientales SWCA

Exhibit J-2a. Supplemental newsletter.

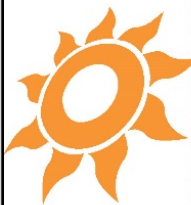


Proposed Gen-Tie Route

Exhibit J-2b. Supplemental newsletter.

Trustees Sales

Arizona. Per A.R.S. Section 33-803 (A)(2), the successor trustee appointed here qualifies as a Trustee of the trust deed in the Trustee's capacity as member of the State Bar of Arizona. ACCORDING TO THE DEED OF TRUST OR UPON INFORMATION SUPPLIED BY THE BENEFICIARY, THE FOLLOWING INFORMATION IS PROVIDED PURSUANT TO A.R.S. SECTION 33-808(C) Street address or identifiable location: **254 South Williams Avenue, Somerton, Arizona 85350** A.P.N.: 752-07-11 Original Principal Balance: **\$175,757.00** Name and address of original trustor: (as shown on the Deed of Trust) **Luis Cisneros and Abelmir Beltran Garcia, husband and wife as community property with right of survivorship 254 Williams Ave Somerton, AZ 85350** Name and address of beneficiary: (as of recording of Notice of Sale) **Freedon Mortgage Corporation 1050 Kincaid Drive Fishers, IN 46038** NAME, ADDRESS, TELEPHONE NUMBER OF TRUSTEE: (as of recording of Notice of Sale) **Kim Quam, member of the State Bar of Arizona Nestor Trustee Services, LLC 2850 Redhawk Avenue, Suite 240 Santa Ana, California 92705 Phone: (888) 403-4115 Sale Lines: (888) 902-3989 Website: www.nestortrustee.com** Date: **8/22/2022** /s/ Kim Quam, member of the State Bar of Arizona State of Arizona) ss County of Maricopa) The foregoing instrument was acknowledged before me by means of communication technology on August 22, 2022 by Kim Quam, a member of the State Bar of Arizona, personally know to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the foregoing instrument. /s/ Barbara Johnson, Notary Public Commission Expires July 17, 2023 Y65444 Yuma Sun: September 28, 2022 & October 5, 12, 19, 2022 - 102390

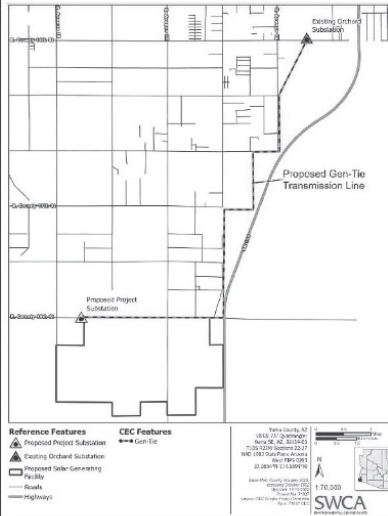


Thank you for reading today's Yuma Sun!

Public Notices

Orchard Renewable Power Project Open House

BrightNight, a renewable power company, invites you to learn about and provide input on its proposed Orchard Solar 230 kV Generation Intertie (gen-tie) Transmission Line Project. The project involves an approximately 9-mile, 230 kilovolt (kV) gen-tie and substation intended to facilitate the planned Orchard Renewable Power Project generation facility, in Yuma County, Arizona. The route for the gen-tie is shown on the map below.



BrightNight plans to file an application for a Certificate of Environmental Compatibility (CEC) and present the project at a hearing before the Arizona Power Plant and Line Siting Committee (Committee). If approved by the Committee, the CEC will then be presented to the Arizona Corporation Commission for their consideration and final decision.

BrightNight invites you to attend an open house meeting to learn more about the project and its community benefits on October 26, 2022. You will be able to speak one-on-one with team members, ask questions, and provide input. The meeting will be held at the following location, date, and time:

**Holiday Inn Yuma
1901 East 18th Street, Yuma, Arizona, 85365
October 26, 2022
5:00 PM to 7:00 PM**

Additional information about the project can also be found by visiting the project website: <https://brightnightpower.com/orchard/>. BrightNight welcomes public comment throughout the CEC process. Questions and comments can be submitted using one of the options listed below:

Email: OrchardSolarCEC@swca.com
Telephone: (928) 275-5830
Mail: Orchard Solar 230kV Gen-Tie Project
c/o SWCA Environmental Consultants
20 E Thomas Road, Suite No. 1700
Phoenix, AZ 85012

Yuma Sun: October 19, 23, 2022 - 108674

Summons

SUMMONS
Case No.: S1400D02022-353
SUPERIOR COURT OF ARIZONA IN YUMA COUNTY
AUL VITE CANO Petitioner / Party A And **CORAL RUBIO** Respondent / Party B
WARNING: This is an official document from the court that affects your rights. Read this carefully. If you do not understand it, contact a lawyer for help.
FROM THE STATE OF ARIZONA TO: CORAL RUBIO Opposing Party
A lawsuit has been filed against you. A copy of the lawsuit and other court papers are served on you with this **Summons**.

If you do not want a judgment or order taken against you without your input, you must file an **"Answer"** or a **"Response"** in writing with the court, and pay the filing fee. If you do not file an **"Answer"** or **"Response"** the other party may be given the relief requested in her Petition or Complaint. To file your **"Answer"** or **"Response"** take, or send, the **"Answer"** or **"Response"** to the: Office of the Clerk of the Superior Court, 250 West 2nd St., Ste. B, Yuma, AZ 85364. Mail a copy of your **"Response"** or **"Answer"** to the other party at the address listed on the top of this Summons.

If this **"Summons"** and the other court papers were served on you by a registered process server or the Sheriff, within the State of Arizona, your **"Response"** or **"Answer"** must be filed within **TWENTY (20) CALENDAR DAYS** from the date you were served, not counting the day you were served. If this **"Summons"** and the other papers were served on you by a registered process server or the Sheriff outside the State of Arizona, your **"Response"** must be filed within **THIRTY (30) CALENDAR DAYS** from the date you were served, not counting the day you were served. Service by a registered process server or the Sheriff is complete when made. Service by Publication is complete thirty (30) days after the date of the first publication.

You can get a copy of the court papers filed in this case from the Petitioner at the address listed at the top of the preceding page, from the Clerk of the Superior Court's Customer Service Center at: 250 West 2nd St., Ste. B, Yuma, AZ 85364.

If this is an action for dissolution (divorce), legal separation or annulment, either or both spouses may file a **Petition for Conciliation** for the purpose of determining whether there is any mutual interest in preserving the marriage or for Mediation to attempt to settle

disputes concerning legal decision-making (custody) and parenting time issues regarding minor children.

6. Requests for reasonable accommodation for persons with disabilities must be made to the office of the judge or commissioner assigned to the case, at least ten (10) judicial days before your scheduled court date.

7. Requests for an interpreter for persons with limited English proficiency must be made to the office of the judge or commissioner assigned to the case at least ten (10) judicial days in advance of your scheduled court date.

SIGNED AND SEALED this date APR 15 2022

Lynn Fazz, CLERK OF COURT
By ROCIO YEPEZ
DEPUTY CLERK

Yuma Sun: October 5, 12, 19, 26, 2022 - 105253

Get Involved

The Get Involved page is returning.

In order to have your Group, Club, Music or other events listed we will need current information for your organization.

Please email the Yuma Sun Classifieds at classifieds@yumasun.com with:

Name of group or event
Meeting place, address, time and days of the week And a contact phone, email or web address.

Groups, Clubs, Volunteer, Music, Weight Loss and Toastmasters are allowed 6 lines.

Veterans and RV Park Events are allowed 12 lines.

Due to the large amount of listings we are not taking these over the phone.



EARN EXTRA CASH BY DELIVERING

THE Yuma Sun



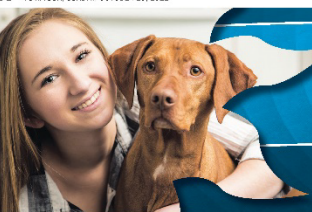
Extra income to help pay bills



Early morning hours leaving the rest of your day free!

INQUIRE IN PERSON - 2055 S. ARIZONA AVE OR
EMAIL SAL PINEDA - SPINEDA@YUMASUN.COM

YUMA SUN, SUNDAY OCTOBER 23, 2022



Classifieds inYuma.com

To place your ad, call (928) 783-4433 • Monday-Friday 8-5
or log on anytime to ClassifiedsInYuma.com





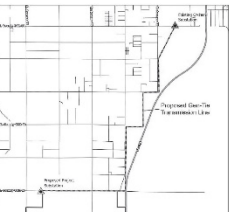


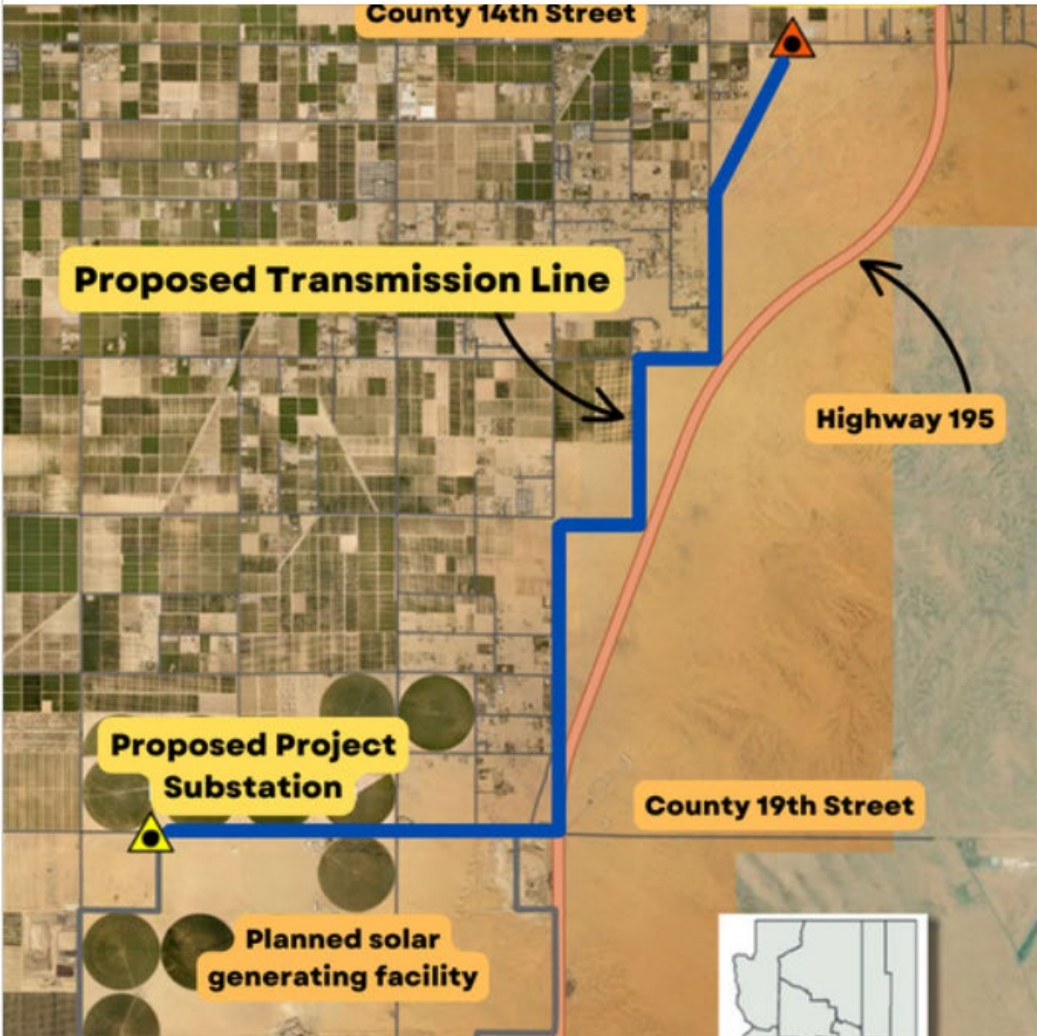
Real Estate Services	RV Lots	Firearms	Dogs	Dogs	Automobiles
 <p>ARIZONA HOME & LAND SALES Since 1960 Service with Care & Understanding Free HOME Value Report! Potholes, Weirton & Coyote Wash Janet Blomham Realtor (928) 304-4948 (928) 342-8375</p>	<p>Long Term Lease Lot for Sale Yuma Lakes Resort Cover, Shed, Concrete Pad, Fenced, Paved Road, Shaded Patio. All Utilities on Lot. Access to Laundry, Pool, Jacuzzi and Lake. Asking \$35K. Call (775) 722-4848 for info.</p> <p>Apartment HOLIDAY APARTMENTS 1 month Free Rent O.A.C. for 1 & 2 bdrm Apartments. All utilities included. Call 341-1111 or 728-4251</p> <p>MEDPARK APARTMENTS \$100 Discount 1st Mo. O.A.C. (on approved credit) 1 Bdrm, 2 Bdrm & 3 Bdrm. All utilities • Basic cable incl. Call 928-783-3515</p>	<p>300 rounds Winchester 350 grain to ammo \$380 (928) 332-0533</p> <p>Don Wesson 357 mag pistol Vinted 3 inch. Ammo. \$600. (928) 332-0533</p> <p>Gun Safes 3 gun safes for sale, 1 for \$125, and the other two are \$750. (928) 503-0834</p> <p>New AR-15 rifle. \$100 firm AZ identification required. (928) 332-0533</p>	<p>PET OF THE WEEK</p>  <p>Hello All! Meet our Pet of the Week, Sarah! Sarah is a 4 year old female American Labrador retriever that enjoys spending time with people. She is very friendly and loves to be on a leash. She gets along with other dogs likes to be petted and given treats. She is a great indicator which makes her really fun to have. Sarah also loves water and knows how to fetch. She has been at the shelter for 153 days and would love to find a new home to call her own. Sarah ID #187132</p> <p>#Yuma #Yuma #AdoptADog #PetOfTheWeek #HumaneSocietyOfYuma #AdoptADog #PetOfTheWeek 100% safe to adopt and adopt to adoption Adoption fee includes: Spay/Neuter, Microchip, Flea/Tick, Heartworm, Vaccinations. Adoption fee includes: Spay/Neuter, Microchip, Flea/Tick, Heartworm, Vaccinations.</p> <p>HUMANE SOCIETY OF YUMA Join our team, spread good vibes.</p> <p>Sponsored by Yuma Sun</p>	 <p>2012 BMW 136i Convertible Sport Edition with all upgrades for sale by original owner. Every service completed, always kept in garage, immaculate condition. 44,500 Miles \$25,000/OBO Call 928-565-3387</p>	
 <p>PARTNERS IN REAL ESTATE 40+ Families Joined in 2019</p> <p>A Fresh Approach TO REAL ESTATE Liz Williams, REALTOR, ABR 928.287.8260 #LizWilliamsRealtor</p>	<p>Homes for Rent</p> <p>2bed, 2bath, 2car garage, Family Room, Living Room, Puffy Matt, Jacuzzi, Fenced, Security Bars, Recently Renovated \$1400/mo. \$1400/dep. (928) 919-8717 (928) 904-4181</p> <p>Large Rancho Sereno Home 3 bed, 2 bath, \$1600/mo + deposit. Call Joe 928-627-4028 Leave Message</p> <p>Yearly Lease, 3 bedroom, 2 bathrooms, \$1200/mo. \$1200 deposit. Call Joe 928-627-4028 Leave Message</p>	<p>Furniture</p> <p>(2) Glider Rockers Both with Foot Stools, Good condition. Asking \$150 for both. Call (728) 728-0969</p> <p>Double Bed, Pillow top, box spring, Head board, Frame Looks like new, Bedspread, Stairs \$250. Call 861-253-1382 (Footfalls)</p> <p>Sofa Bed, Double, Excellent condition, Tan, \$250. Call 861-253-1382 (Footfalls)</p> <p>Sofa Bed, L Shape, Good Condition, \$300. Round Table, 4 Chairs, \$40. Glass TV Stand, \$30. (760) 443-1944 (Footfalls)</p>	<p>Trailers - Campers</p> <p>Nash 1996 Bumper Pull 28' Camping Trailer Good Condition, A/C, New Awning, Self Contained. Call (775) 722-4948 for info.</p>	<p>Trailers - Campers</p> <p>11893 S Prescott Ave Sunday ONLY 9am to Noon Bedroom and Living Room Furniture, Kitchen items, Garage and Yard Tools, Home decor</p>	
<p>RENT TO OWN TRAILERS From \$350 to \$450 per month. We have three parks in the Yuma area to choose from. Call Don 928-694-4913</p> <p>Rooms For Rent</p> <p>Attention Exoticists, Massage Therapists or PMU Artists, we have a room available for rent. Personal room and access to the lobby and 2 restrooms. Email: achill18@gmail.com for more information.</p> <p>Appliances</p> <p>Heu. R. Frigidaire Freezer Large model, Garage ready, Frost free, Even temp. Removable floor, White. Was \$748. NOW just \$500! (928) 841-0771</p>	<p>Mobile Manufactured</p> <p>Century 21 Relentlessly giving 121% (928) 920-7578</p>	<p>This & That</p> <p>(4) Michelin 245/70R17 Tires Mounted on P150 8 lug rims. \$200 Plus a spare tire and front shocks included. (509) 835-9768</p> <p>Like New Harley Seat Fits Road King models 1997-2007 \$150 (206) 999-9552</p> <p>MAXXON OUTFITTERS 9' Bat Store by 4 pc combo w/inter NEW-NEVER USED \$125.00 (928) 342-1258</p> <p>The Butner Ferry Stuffs Book, 12" X 7" 84 Five-Minute Mysteries by Webster, 100 cases to solve \$11. (928) 344-9723</p>	<p>Newspapers matter. Every day, the Yuma Sun reports on local meetings to hold elected officials accountable. Stay informed - subscribe today.</p>	<p>PUBLIC NOTICES</p> <p>To place your ad, call (928) 332-5813 • Mon-Fri 8-5 • or email: publicnotices@yumasun.com</p> <p>Access all public notices published in print at yumasun.com/public-notices As well as public notices throughout the state www.publicnotices.com You can view all current and archived notices on this site.</p>	<p>Orchard Renewable Power Project Open House</p> <p>BrightNight, a renewable power company, invites you to learn about and provide input on its proposed Orchard Solar 230 kV Generation Inter tie (gen-tie) Transmission Line Project. The project involves an approximately 5-mile, 230 kilovolt (kV) gen- tie and substation intended to facilitate the planned Orchard Renewable Power Project generation facility in Yuma County, Arizona. The route for the gen-tie is shown on the map below.</p>  <p>BrightNight plans to file an application for a Certificate of Environmental Compatibility (CEC) and present the project at a hearing before the Arizona Power Plant and Line Siting Committee (Committee). If approved by the Committee, the CEC will then be presented to the Arizona Corporation Commission for their consideration and final decision.</p> <p>BrightNight invites you to attend an open house meeting to learn more about the project and its community benefits on October 26, 2022. You will be able to speak one-on-one with team members, ask questions, and provide input. The meeting will be held at the following location, date, and time:</p> <p>Holiday Inn Yuma 1901 East 18th Street, Yuma, Arizona, 95895 October 26, 2022 5:00 PM to 7:00 PM</p> <p>Additional information about the project can also be found by visiting the project website: https://brightnightpower.com/orchard/. BrightNight welcomes public comment throughout the CEC process. Questions and comments can be submitted using one of the options listed below:</p> <p>Email: OrchardSolarCEC@swca.com Telephone: (908) 276-5630 Mail: Orchard Solar 230kV Gen-Tie Project c/o SWCA Environmental Consultants 20 E Thomas Road, Suite No. 1700 Phoenix, AZ 85012</p> <p>Yuma Sun: October 18, 23, 2022 - 108674</p>
<p>Mobile Homes</p> <p>Century 21 Relentlessly giving 121% (928) 920-7578</p> <p>Mobile Homes</p> <p>Selling two for \$200 Butler Soft Leather Pencil Skirts, Size 12 pants. True to size, 1 Black and 1 Tan. Excellent deal. Call (485) 369-7444</p> <p>Crafts - Hobbies</p> <p>Crafting Stamps 700+ acrylic & wood craft stamps. Most new. \$250 for all (208) 999-5478</p> <p>Electronics</p> <p>42" TV w/eh TV Cabinet with doors \$775. Call 851-233-1382 (Footfalls)</p>	<p>Get Involved</p> <p>The Get Involved page is returning. In order to have your Group Club, Music or other events listed we will need current information for your organization.</p> <p>Please email the Yuma Sun Classifieds at classifieds@yumasun.com with:</p> <p>Name of group or event Meeting place, address, time and days of the week And a contact phone, email or web address.</p> <p>Groups, Clubs, Volunteer, Music, Weight Loss and Toastmasters are allowed 6 lines. Veterans and RV Park Events are allowed 12 lines. Due to the large amount of listings we are not taking these over the phone.</p>	<p>EARN EXTRA CASH BY DELIVERING</p> <p>THE Yuma Sun</p> <p>Extra income to help pay bills</p> <p>Early morning hours leaving the rest of your day free!</p> <p>INQUIRE IN PERSON 2055 S. ARIZONA AVE OR EMAIL SAL PINEDA - SPINEDA@YUMASUN.COM</p>			

Exhibit J-3b. October 23, 2022, newspaper display advertisement published in the Yuma Sun.

**SWCA Environmental Consultants**
Sponsored · 

We want to hear from you regarding BrightNight's proposed transmission line in Yuma, AZ. Click to learn more about the open house & share your comments.



BRIGHTNIGHTPOWER.COM

Share your input [Learn more](#)

Harnessing the power of solar energy to support ...




 Like  Comment  Share

Exhibit J-4. Facebook advertisement.

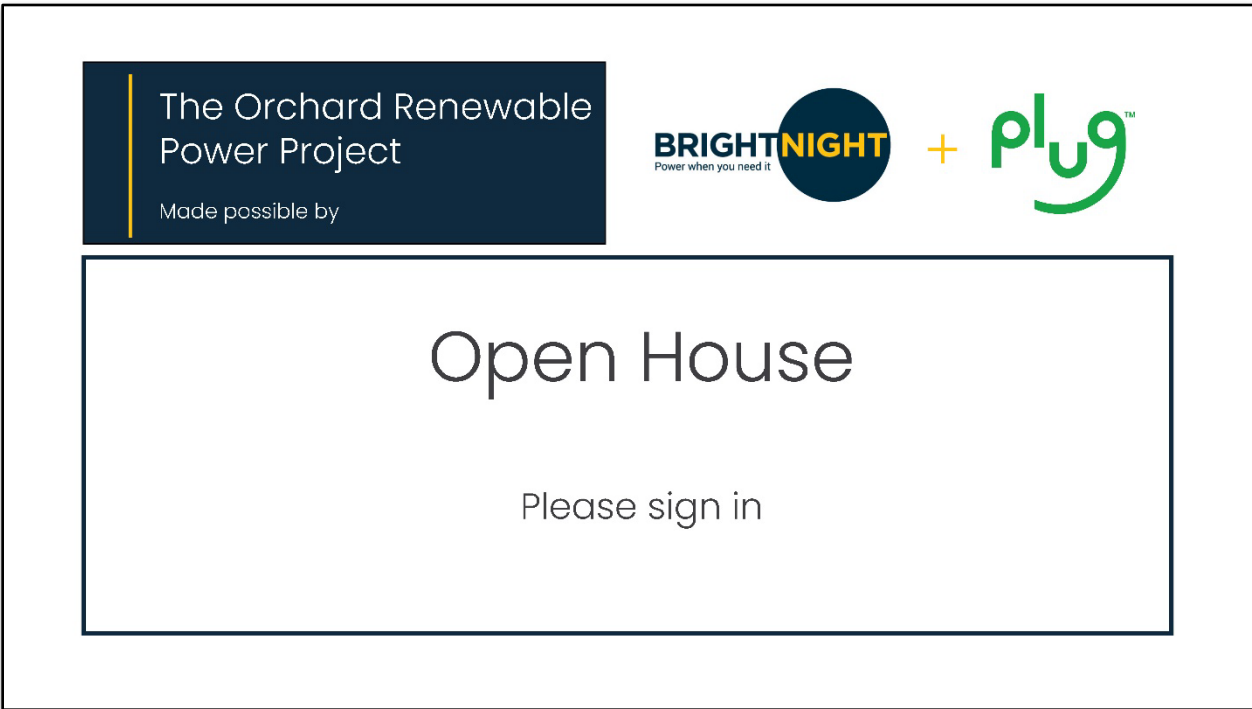


Exhibit J-5a. In-person open house display board.

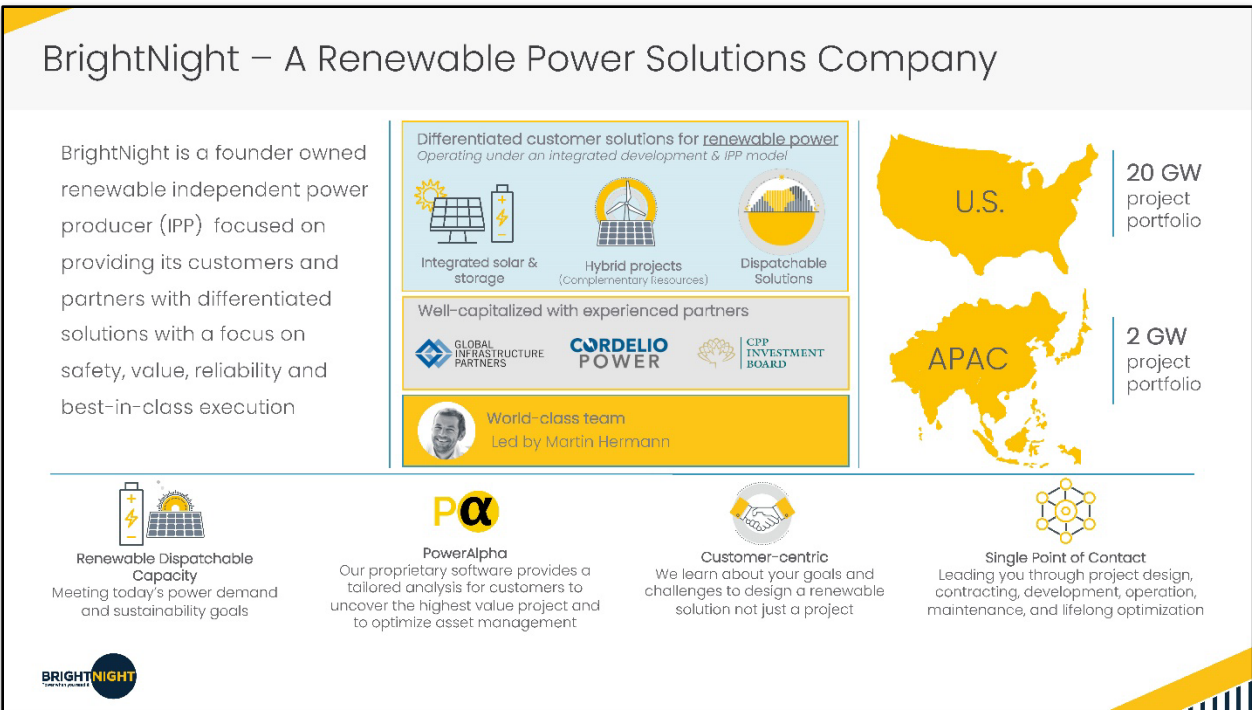


Exhibit J-5b. In-person open house display board (continued).

Orchard Renewable Power Project



Exhibit J-5c. In-person open house display board (continued).

What is the Orchard Renewable Power Project?

- The BrightNight Orchard Renewable Power Project combines the best in energy innovation to deliver broad economic and environmental value to the Yuma Community
- Our project will consist of a solar farm capable of producing up to 300 MW to power a green hydrogen production facility.
 - BrightNight will construct a generation intertie (gen-tie) transmission line to connect the Orchard Renewable Power Renewable Power Project to the regional transmission grid



+

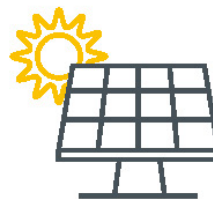


Exhibit J-5d. In-person open house display board (continued).

Community Benefits



More than 250 jobs created during construction. Valuable experience in high demand, high paying industry



\$1.2B in regional economic uplift through this infrastructure investment over the life of the project



Over 60 permanent careers in renewable power



More than \$50M paid to the ASLD K-12 Educational Trust



\$60M in local, state, and property tax revenue



98% reduction in water consumption compared with current agricultural processes in the same location



Exhibit J-5e. In-person open house display board (continued).

Our Commitment to Safety



- BrightNight works with local emergency response teams to provide project safety training
- Dedicated site safety manager during the construction phase
- From construction through operation, 24/7 visibility to personnel, equipment, and site safety
- Access control to ensure project equipment/perimeter remains secure
- Designed with local geographic and geologic conditions in mind
- BrightNight is technology agnostic which means we can make the safest technology choices
- Standard safety compliance including emergency stops positioned across site, safety labels, ongoing personnel and vendor safety training



Exhibit J-5f. In-person open house display board (continued).

Our Commitment to Safety



- Plug is dedicated to safety and has extensive safety practices in accordance with industry best practices, the OSHA Process Safety Management process, and industry standards developed over the last century of work with hydrogen.
- Every Plug project undergoes safety review and Hazard analysis at multiple points in developments, with reviews undertaken by a strong team of developers, engineers, operators, and outside hydrogen experts before designs are constructed.
- Every Plug plant undergoes extensive safety and emergency response training with both onsite personnel and local first responders following construction and before full plant operation.
- Plug is a proud member of the Center for Hydrogen Safety to help develop the best safety standards, resources, and trainings for the entire hydrogen industry.
- Plug regularly engages the Department of Energy's Hydrogen Safety Panel in considering new designs and layouts for its plants – a panel of experts from across industry and government (including the DoE and NASA). This allows us to leverage not only our own 25+ years of hydrogen experience, but also decades of broader industry and government experience with hydrogen systems as well.



Exhibit J-5g. In-person open house display board (continued).

What is a Certificate of Environmental Quality?

- The Gen-Tie will connect the Project to the regional power grid at the existing, APS-operated Orchard Substation on County 14th Street.
 - The Gen-Tie will be approximately 9 miles long and operate at 230 kilovolts (kV)
- The Arizona Corporation Commission (ACC) is the state agency with jurisdiction over new transmission lines that operate at or above 115 kV and have a "series of structures"
- The ACC must issue a *Certificate of Environmental Compatibility (CEC)* to authorize the Gen-Tie's construction
- BrightNight is developing a CEC application that will include information about the Gen-Tie's compatibility with existing resources (e.g., land use, biological resources, cultural and historic resources, visual resources, and noise and interference)

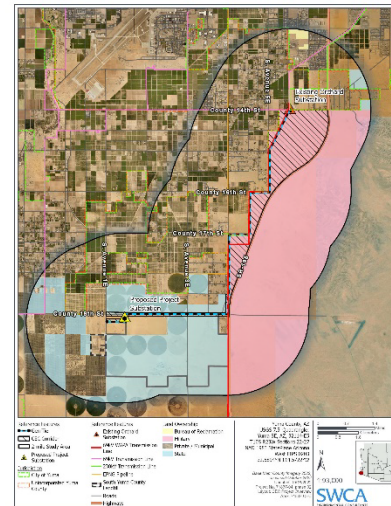


Exhibit J-5h. In-person open house display board (continued).

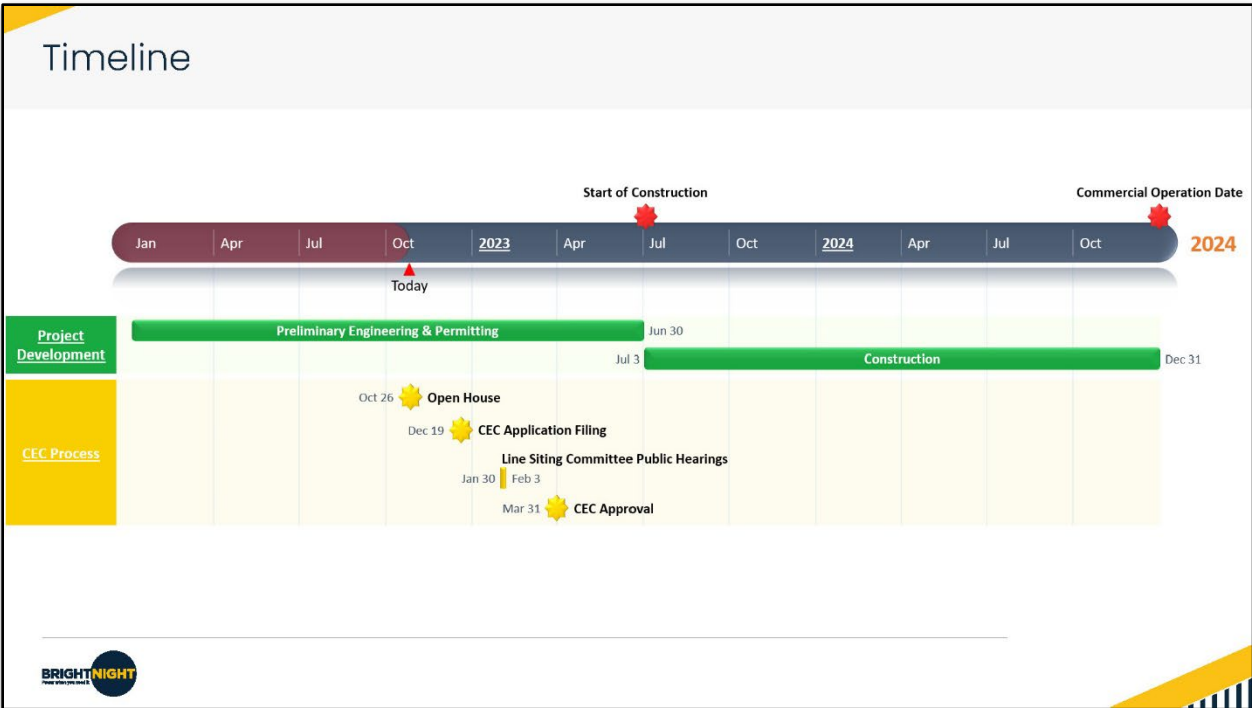


Exhibit J-5i. In-person open house display board (continued).

How can I submit comments on the CEC and Project?

- We welcome input, comments, and questions on the Project – please reach the Project Team at the contact information, below:

Email: OrchardSolarCEC@swca.com

Phone: (928) 275-5830

Mail: Orchard Solar 230kV Gen-Tie Project
c/o SWCA Environmental Consultants
20 E Thomas Road, Suite No. 1700
Phoenix, AZ 85012

- Additional Information is available at our website: brightnightpower.com/orchard/

BRIGHT NIGHT

Exhibit J-5j. In-person open house display board (continued).

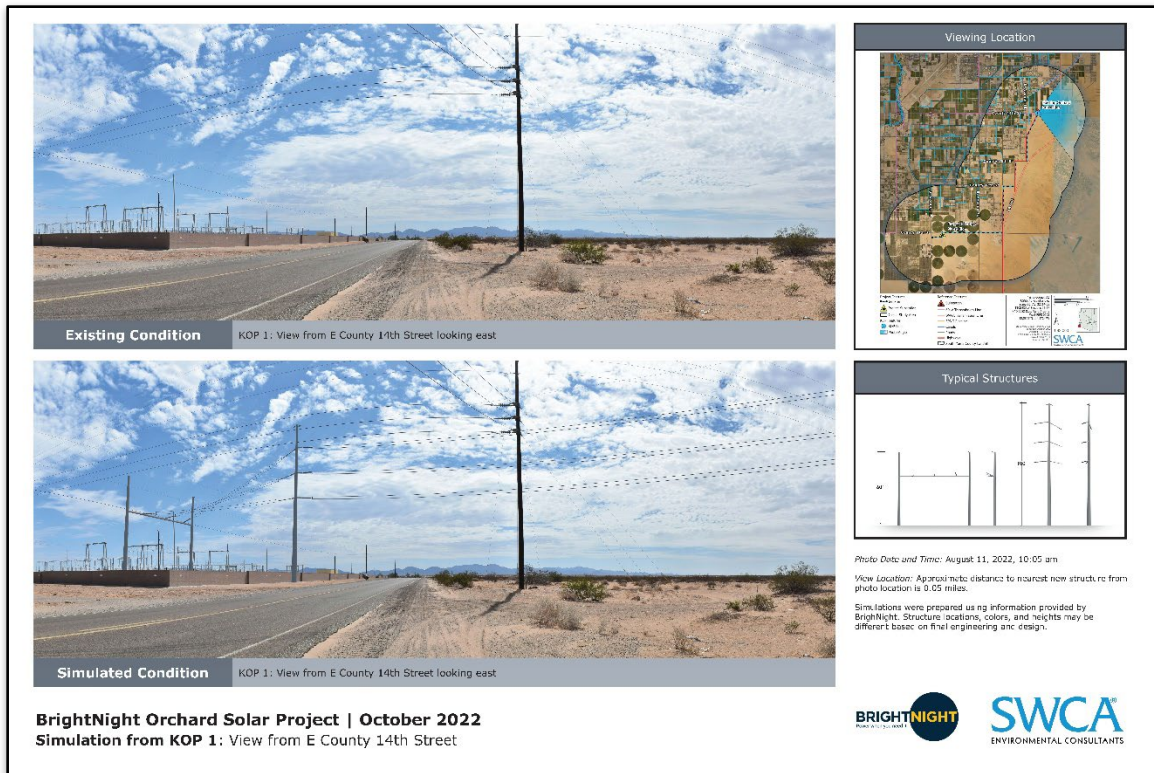


Exhibit J-5k. In-person open house display board (continued).



Exhibit J-5l. In-person open house display board (continued).

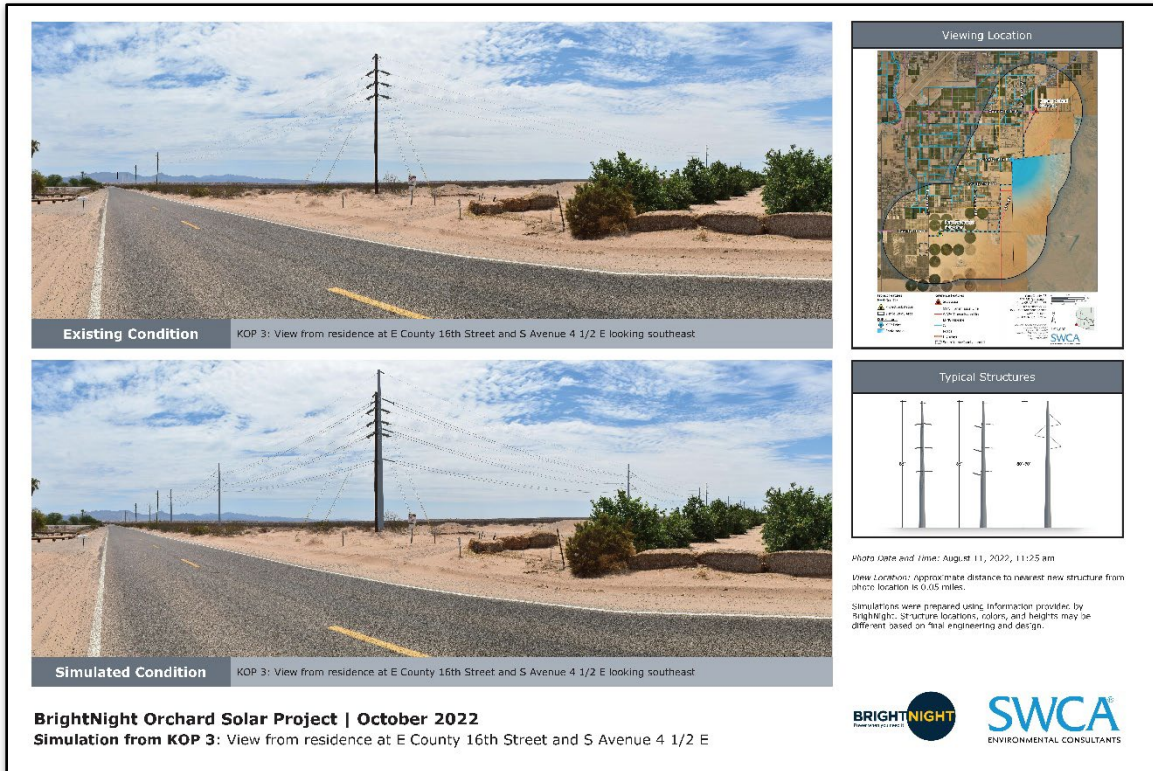


Exhibit J-5m. In-person open house display board (continued).

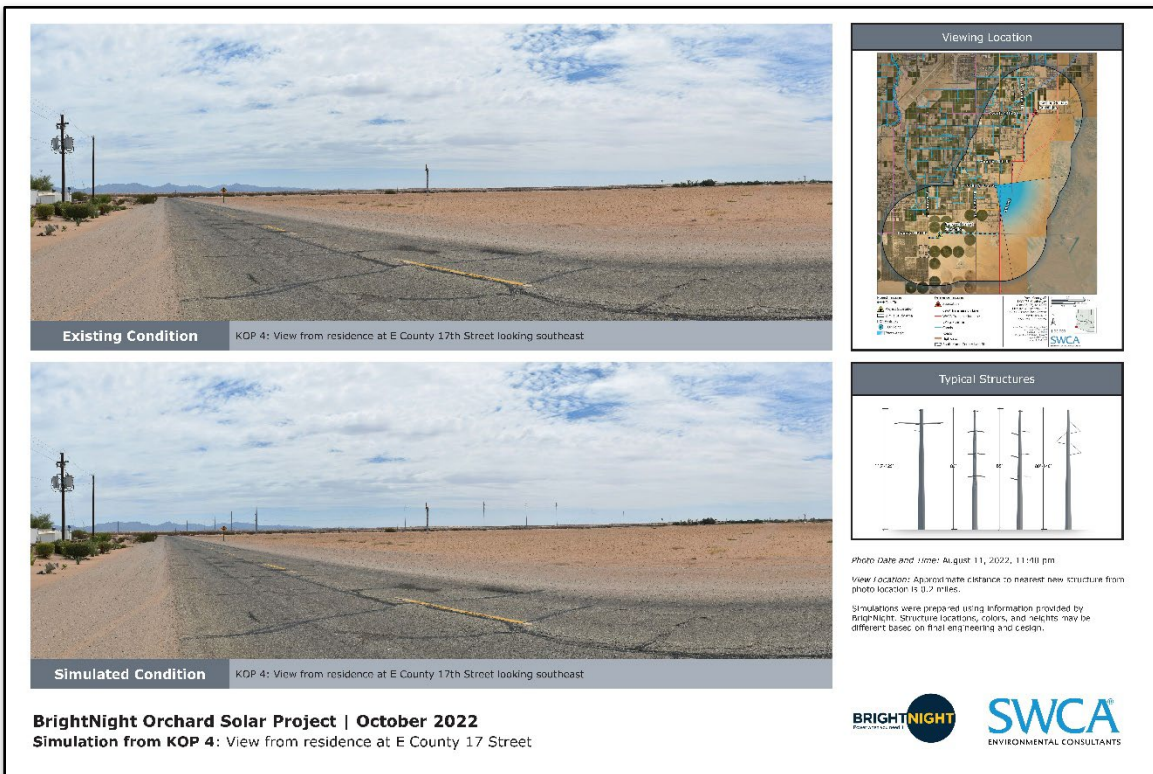


Exhibit J-5n. In-person open house display board (continued).

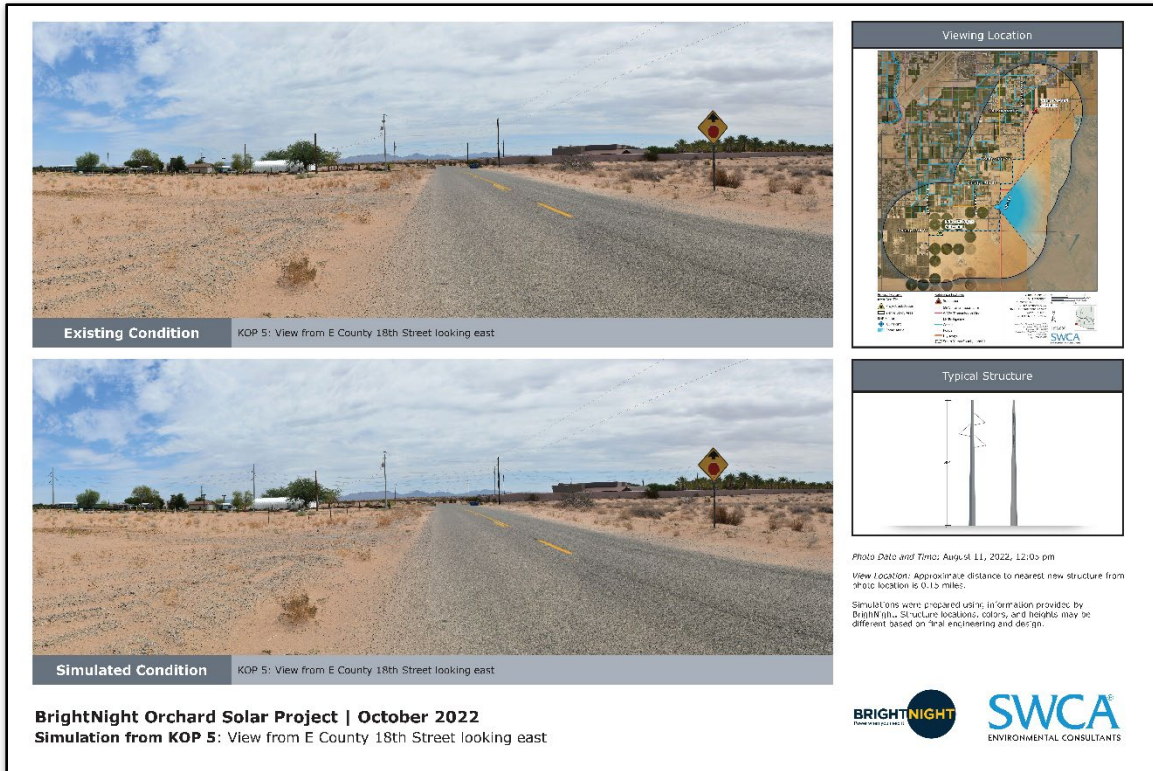


Exhibit J-5o. In-person open house display board (continued).

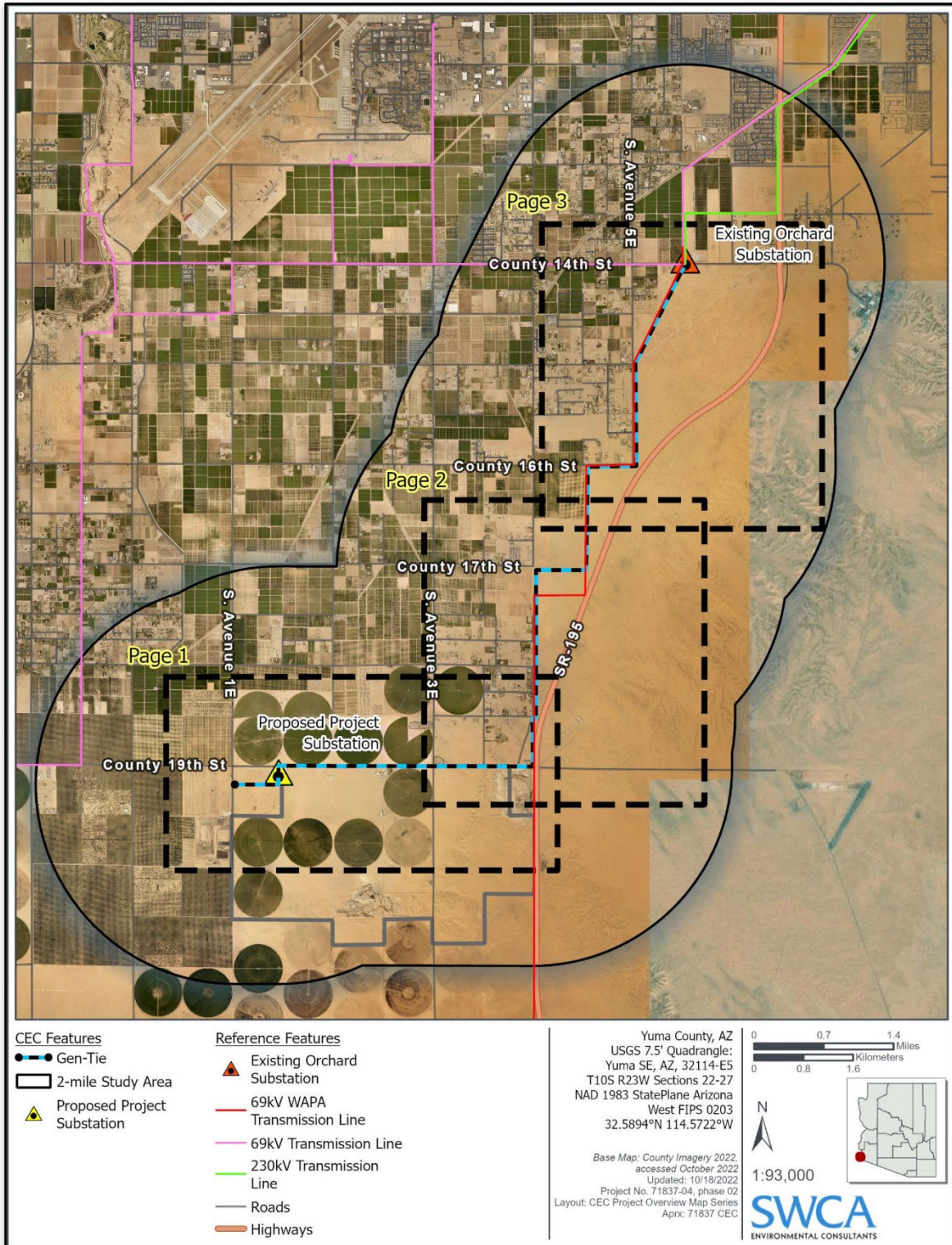


Exhibit J-5p. In-person open house display board (continued).

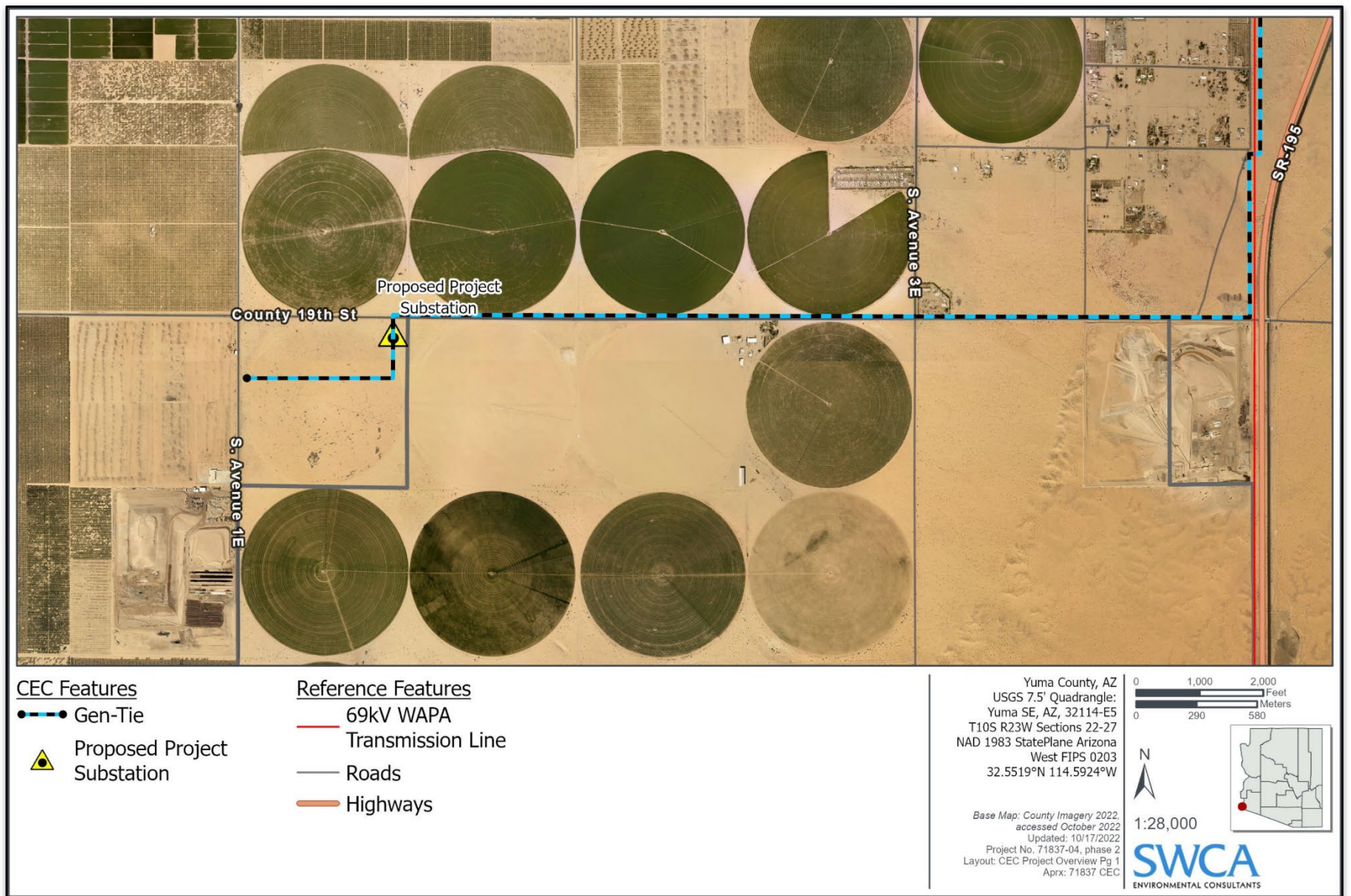


Exhibit J-5q. In-person open house display board (continued).

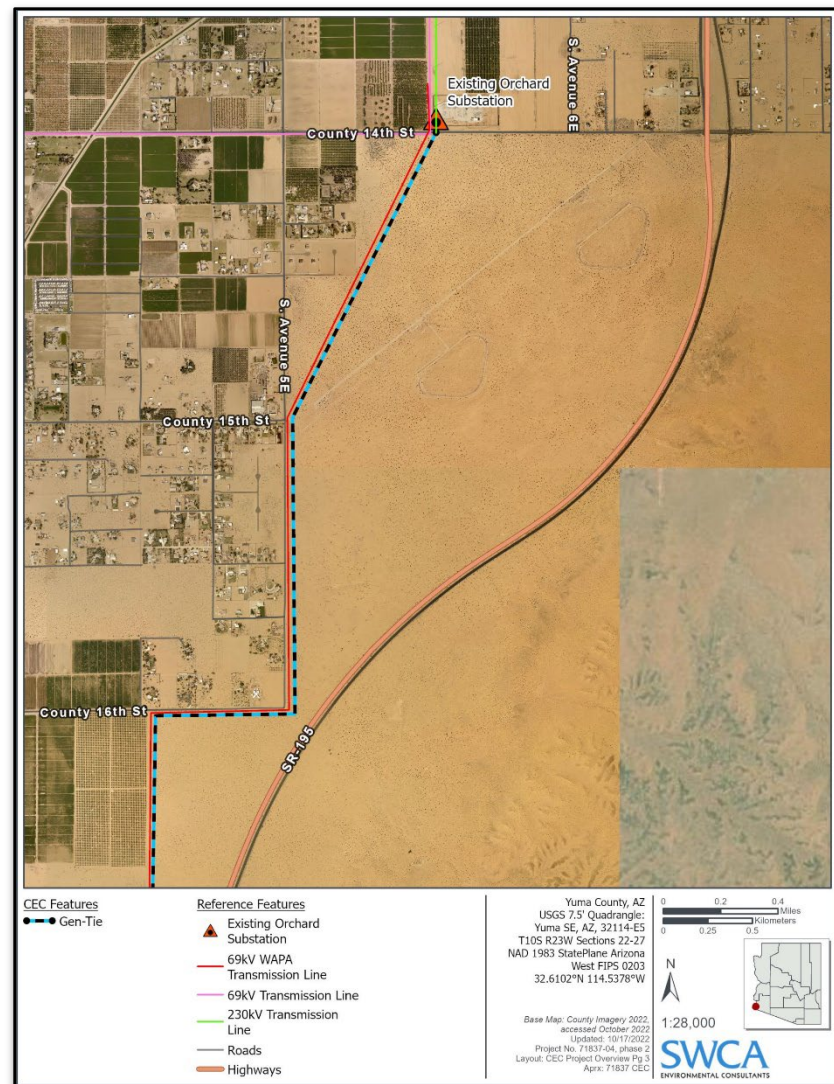
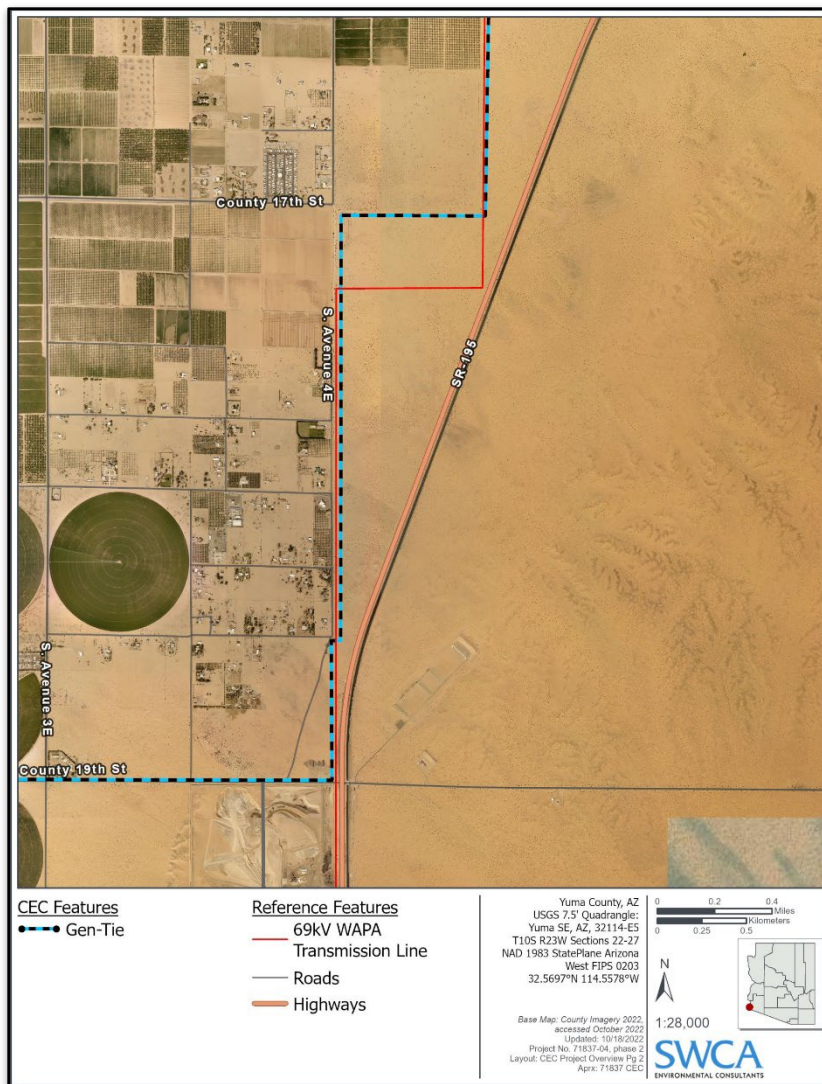


Exhibit J-5r. In-person open house display board (continued).



Anatomy of a solar project

Panels and posts are safe for the environment. Their placement on land does not result in soil or water contamination

Agricultural land at rest during the life of a solar project **provides regenerative soil benefits**

At the end of a project's life, the project is removed; and **90% of the project materials will be recycled**

Solar panels

8-10 ft panel height

Mechanism that slowly tilts panels to follow the sun

Solar panel surface area does not cause rainwater pooling

Traditional ground mount installation

No concrete

GROUND LEVEL

10 ft into the ground

Leased site selected for the project. Provides valuable income to local landowners



Quiet operation



No odor or emissions



Monitored remotely with only occasional site visits



Panels are designed to absorb the sun, not reflect it. A glare study is conducted to ensure minimal impact

SIMULATION | PICTURED ON FLAT TERRAIN

BrightNightPower.com

Exhibit J-5s. In-person open house display board (continued).

The Orchard Renewable Power Project

Yuma County, Arizona

KNOW THE FACTS

The BrightNight Orchard Renewable Power Project combines the best in energy innovation to deliver broad economic and environmental value to the Yuma community. Our project will feature solar energy generation (a "Solar Farm") co-located with a green hydrogen facility. BrightNight specializes in developing, constructing, and operating renewable power infrastructure such as solar and wind combined with battery energy storage. For the Orchard Renewable Power Project, we're supporting Plug Power, LLC ("Plug") a global leader in green hydrogen production, with a solar and battery power solution to sustainably meet the energy needs of their production facility. Our combined efforts will produce valuable energy for multiple industries and offset millions of metric tons of carbon each year. Together, we look forward to joining the Yuma community, meeting our future neighbors and colleagues, and learning how we can support the region's growth and sustainability goals.

Who Is BrightNight

- BrightNight is a U.S. based, renewable power company working to provide clean power projects for a decarbonized energy future.
- Our experts have a long professional history with more than 10,000 megawatts of projects installed and operated successfully.
- As an independent power producer, we work to become a part of your community so we can support your region's long-term goals over the life of our project.



Over \$1.2B in economic uplift to the area.
Over \$50M paid to the ASLD K-12 educational trust under the project's state-land solar lease agreement. **\$60M in local, state, and property tax revenue.**



We are working with local leaders and community members to develop a **solar farm capable of delivering up to 300-megawatts of clean renewable energy** in Yuma County, AZ.



Plug is an experienced green hydrogen producer with more than **545 million hours of safe, reliable operations.**



Our proposal represents a private infrastructure investment of **\$500M-\$750M.**



Operating the BrightNight + Plug Renewable Power Project will represent a **98% reduction in water consumption** compared with current alfalfa production in the same location.



Once complete, the Plug facility will produce **30 metric tons of green hydrogen** each day. Enough energy to power 1,000 semi-trucks.



Over 250 jobs will be created during construction and **more than 60 long-term careers** will be created to support solar project operations and maintenance and the green hydrogen production process.

WE'RE ALWAYS HERE TO ANSWER YOUR QUESTIONS!



Erik Ellis - Vice President of Development 602.549.4243 | erik@brightnightpower.com
Brandon Pollpeter - Director of Development 417-331-6866 | brandon@brightnightpower.com
Elijah Shoemaker - Senior Developer 509-750-8557 | eshoemaker@plugpower.com
Learn more at <https://brightnightpower.com/orchard/>

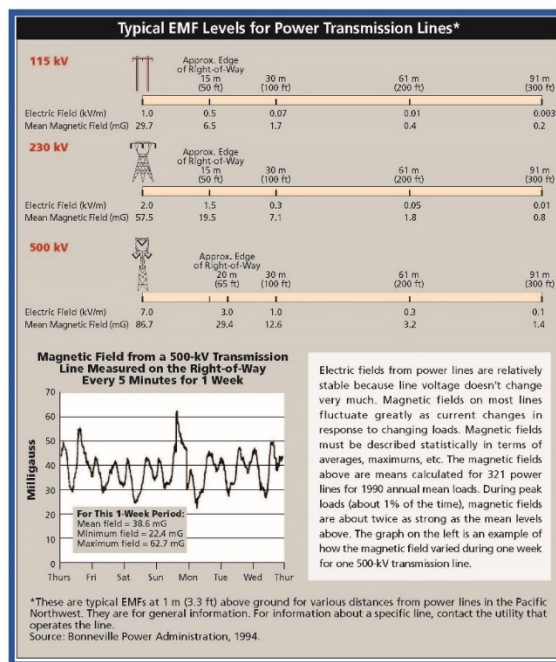
Exhibit J-6a. In-person open house handout.

Electric and Magnetic Fields

What are electric and magnetic fields?

Electric and magnetic fields (EMF) exist naturally wherever any substance has an electrical current running through it. There are both natural and human-made sources of EMF (WHO 2016). Human-made EMF sources include power lines, electrical wiring, and electrical equipment (e.g., hair dryers, electric stoves, power tools) all produce EMF (NIEHS 2002).

As shown in the graphic to the right, EMF levels are highest directly beneath the power lines, with levels dropping significantly as distance away from the source increases.



Source: NIEHS 2002

Are there any health concerns associated with EMF?

As noted on the World Health Organization's website, "a recent in-depth review of the scientific literature, the WHO concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields" (WHO 2016).

What factors affect the EMF levels associated with a power line?

EMF levels are generally proportional to amount of electricity – or current – flowing through a wire. Where a power line uses multiple wires, the arrangement and distance between the wires may be arranged to minimize EMF levels.

References:

- National Institute of Environmental Health Sciences (NIEHS). 2002. Electric and Magnetic Fields Associated with the Use of Electric Power. Available at: <https://www.niehs.nih.gov/health/topics/agents/emf/index.cfm>. Accessed October 2022.
- World Health Organization (WHO). 2016. Questions and Answers, Radiation: Electromagnetic fields. Available at: <https://www.who.int/news-room/questions-and-answers/item/radiation-electromagnetic-fields>. Accessed October 2022



Orchard Renewable Power Project

PLEASE SIGN IN

Name	Mailing Address	Phone Number	Email
Bob Woodman	[REDACTED]	[REDACTED]	[REDACTED]
Albert Gardner	[REDACTED]	[REDACTED]	[REDACTED]
Beth Ree	[REDACTED]	[REDACTED]	[REDACTED]
Julie Silva	[REDACTED]	[REDACTED]	[REDACTED]
Ronald W. Terry	[REDACTED]		[REDACTED]
Jon Fell	[REDACTED]	[REDACTED]	[REDACTED]
PAT McWilliams	[REDACTED]	[REDACTED]	[REDACTED]
Mark Helley	[REDACTED]	[REDACTED]	[REDACTED]
CHRISTOPHER ROBIN	[REDACTED]	[REDACTED]	[REDACTED]
Lynne Pancrazi	[REDACTED]	[REDACTED]	[REDACTED]
Lisa Chavez	[REDACTED]		
Gilberto GARZA	[REDACTED]	[REDACTED]	[REDACTED]

Exhibit J-7. In-Person open house sign-in sheet.

Orchard Renewable Power Project

Comment Form

<hr/>			
<i>Name</i>			
<hr/>			
<i>Organization (if applicable)</i>			
<hr/>			
<i>Address</i>			
<hr/>			
<i>City</i>	<i>State</i>	<i>Zip</i>	<i>Email</i>

COMMENTS:

[illegible]

Exhibit J-8. In-person open house comment form.

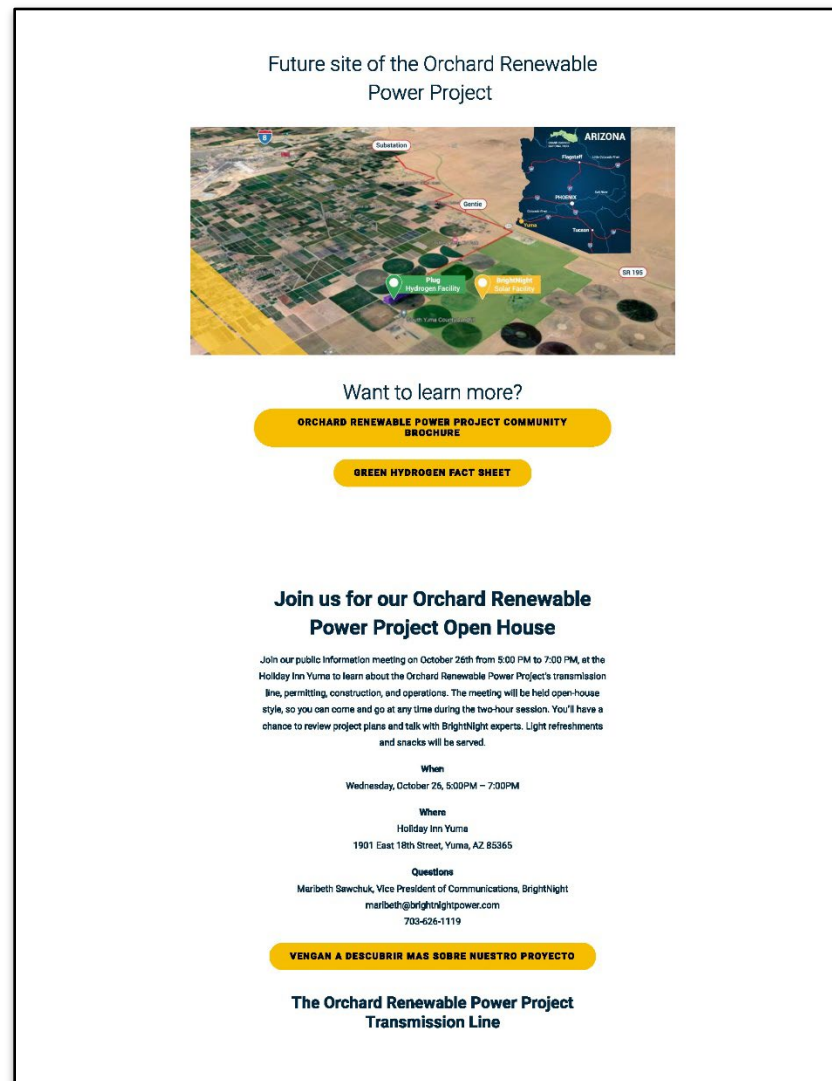
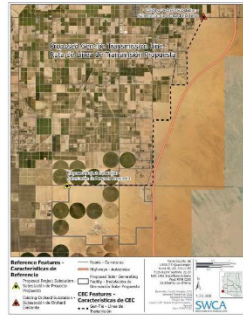


Exhibit J-9a. Project website.

In order to deliver the power generated by the Orchard Renewable Power Project, we have proposed the construction of a 9-mile long, 230kV Generation Intertie Transmission Line. The proposed route for the gen-tie is shown on the map below.



We are currently collecting public comments with support from our local partner, SWCA Environmental Consultants. If you would like to provide a comment or pose a question, please reference the contact information below.

Please submit comments or questions to:

Orchard Solar 230kV Gen-Tie Project
c/o SWCA Environmental Consultants
20 E Thomas Road, Suite No. 1700
Phoenix, AZ 85012

Project Phone Number: (928) 275-5830
Project Email: OrchardSolarCEC@swca.com

Project FAQs

Thanks to exciting renewable energy adoption across the United States, most people are familiar with the benefits of solar power. But how it's developed, constructed, and paired with other sources like green hydrogen is complex. We've compiled a few FAQs to help address your questions.

- + How will solar power be used at this project?
- + What is green hydrogen?
- + How are solar projects installed?
- + How much electricity will be generated by the solar panels?
- + Do solar projects create glare?
- + How is green hydrogen produced?
- + What is green hydrogen used for?

- + Is it true that green hydrogen production uses a lot of water?
- + Why was this area selected for this project?
- + How much traffic will there be and where will the trucks go?
- + When will construction and operations begin?

Talk to the team!

We're working to introduce ourselves to local leaders, business owners, and residents. If you'd like to chat with us over the phone or schedule a time to meet with us in person, please contact a member of the Orchard Renewable Power Project team.



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Brandon Pollpeter
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maribeth@brighthouse...

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Exhibit J-9b. Project website.

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