



**MEMORANDUM**

**TO:** Cochise County Planning and Zoning Commission  
**FROM:** Christine McLachlan, AICP, Planning Division Manager  
**FOR:** Daniel Coxworth, AICP, Development Services Director  
**SUBJECT:** SU 23-17 (3 Sisters Solar), Application for a Special Use Authorization  
**DATE:** July 31, 2023, for the August 9, 2023, Meeting

**Docket SU 23-17 (3 Sisters Solar)**

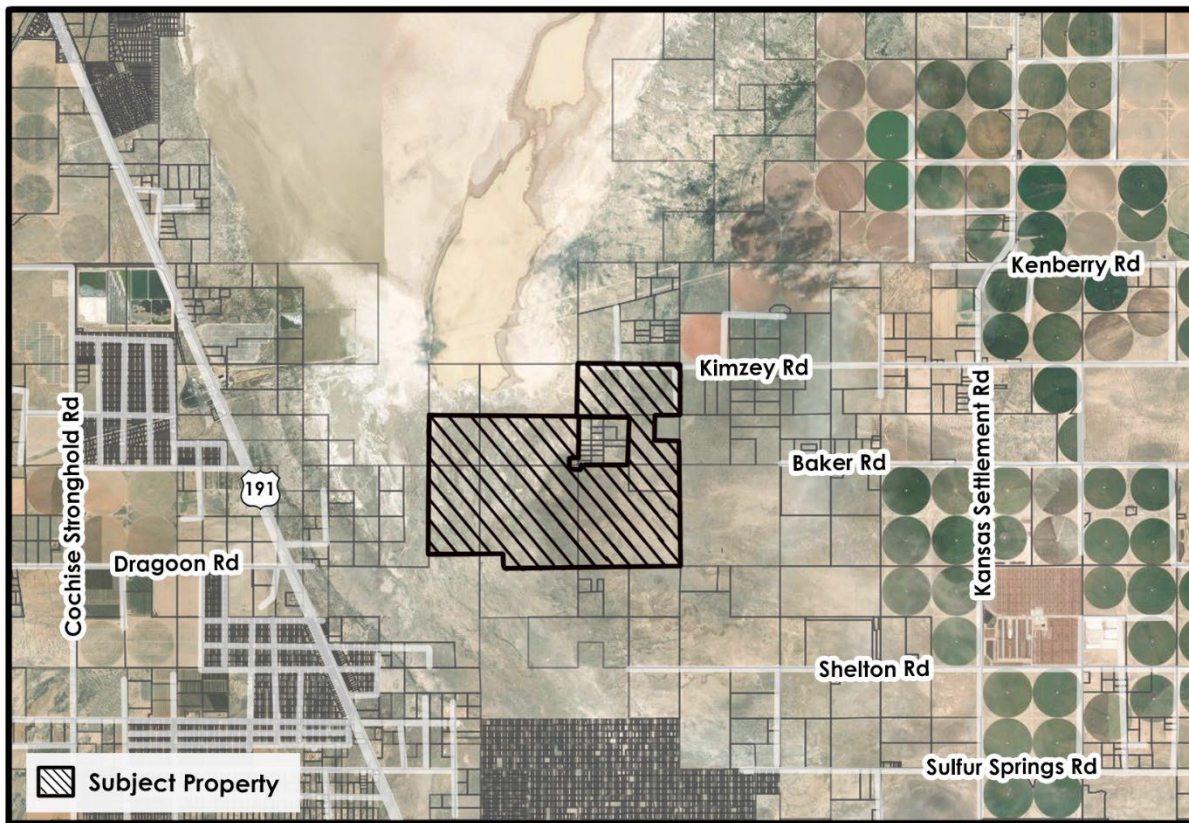
The applicant, THSI bn, LLC, requests Special Use Authorization to construct and operate a 300 MW solar energy power plant with battery energy storage system (BESS) on approximately 2,450 acres of land within a rural zoning district. The Project site is situated southeast of the Wilcox Playa entirely within unincorporated Cochise County. It is approximately 11 miles southeast of Interstate 10, 14 miles south of the City of Willcox and approximately two miles east of U.S. Highway 191. The area subject to this request is further described as follows: 205-01-006 (161.09 Ac), 205-01-002A (281.56 Ac), 205-27-002B (310.19 Ac), 205-21-002D (607.67 Ac), 205-40-002A (565.03 Ac), 205-28-003B (120.22 Ac), 205-28-001 (320.78 Ac), 205-40-001 (81.74 Ac). The Project includes construction of a photovoltaic (PV) solar facility, battery energy storage system (BESS), and a 1.5-mile generation-tie (gen-tie) line.

The installation of a solar energy power plant and BESS, as well as any substantial modification, is subject to site development standards contained in the Cochise County Zoning Regulations and requires Special Use Authorization from the Planning and Zoning Commission in a rural zoning district.

**I. DESCRIPTION OF SUBJECT PARCEL AND SURROUNDING USES**

**Site Size:** 2,450 Acres (approximately)  
**Zoning:** RU-4 (Rural, 4-acres minimum parcel)  
**Growth Area:** Category D  
**Plan Designation:** Rural  
**Area Plan:** None  
**Existing Uses:** Undeveloped/Vacant  
**Proposed Uses:** Phased Utility Scale Solar and Battery Energy Storage System to generate up to 300 MW on 2,450-acres of land

Figure 1: Request Location



Location  
 SU 23-17 (3 Sisters Solar)



**Surrounding Zoning and Uses (See Figure 4)**

Relation to Subject Parcel	Zoning District	Use of Property
North	RU-4	Undeveloped/Willcox Playa/ag/low density res
South	RU-4	Undeveloped
East	RU-4	Undeveloped/low density res
West	RU-4	Undeveloped

**II. SITE HISTORY**

There are two structures associated with residences near the terminus of Anderson Road on parcel 205-28-001. According to the application: “These structures will be removed or re-purposed for operation and maintenance storage when the Project is built. With the exception of existing water wells, the remainder of the Project site is vacant and currently used for cattle grazing.”

**III. REQUEST DESCRIPTION**

As stated in the application, “The Project consists of a 300-megawatt PV solar facility plus BESS that will interconnect to the grid via a 1.5-mile gen-tie line and newly constructed switchyard. The gen-tie will run north from the on-site substation to the newly constructed switchyard and interconnect to the existing 230-kV transmission line operated by Arizona Electric Power Cooperative (AEP CO). The Applicant proposes to construct

and operate the Project to deliver electricity generated by the Project to local Cochise County electrical districts and/or other public power agencies and utilities in Arizona and the Southwest. The PV solar facility and BESS will be compliant with industry standards and safety codes like NEC 2017, NFPA, IEEE 1547, IEC 61730, UL 1703, UL 1741 and FPA 855, UL 9540A, UL 9540, UL 1973, UN DOT 38.3 respectively.”

More specifically, “the Project would be comprised of rows of solar modules mounted on racking equipment that tracks the sun throughout the day. The racking equipment sits on top of steel piles that are directly driven into the ground. All the solar modules are connected to photo voltaic inverters using a network of conductors and safety disconnect boxes. These inverters will be used to convert the direct current power generated by the solar modules to alternating current power, while the medium voltage transformers located next to each inverter will then “step up” the low voltage power to medium voltage. The output power from each transformer is collected using conductors which carry the power to the Project substation. The power is then stepped up to transmission voltage, using the main power transformer located at the substation, before connecting to the gen tie power line. A battery energy storage system (BESS) is planned to be constructed as part of the Project which will require inverters, transformers, a cooling system and fire detection and prevention system. The Project will also include a met tower, security fencing, and an operations and maintenance facility. In addition, there will be multiple structures erected (fabricated metal buildings or shipping containers) which will be used during O&M for storage of spare parts and equipment.”

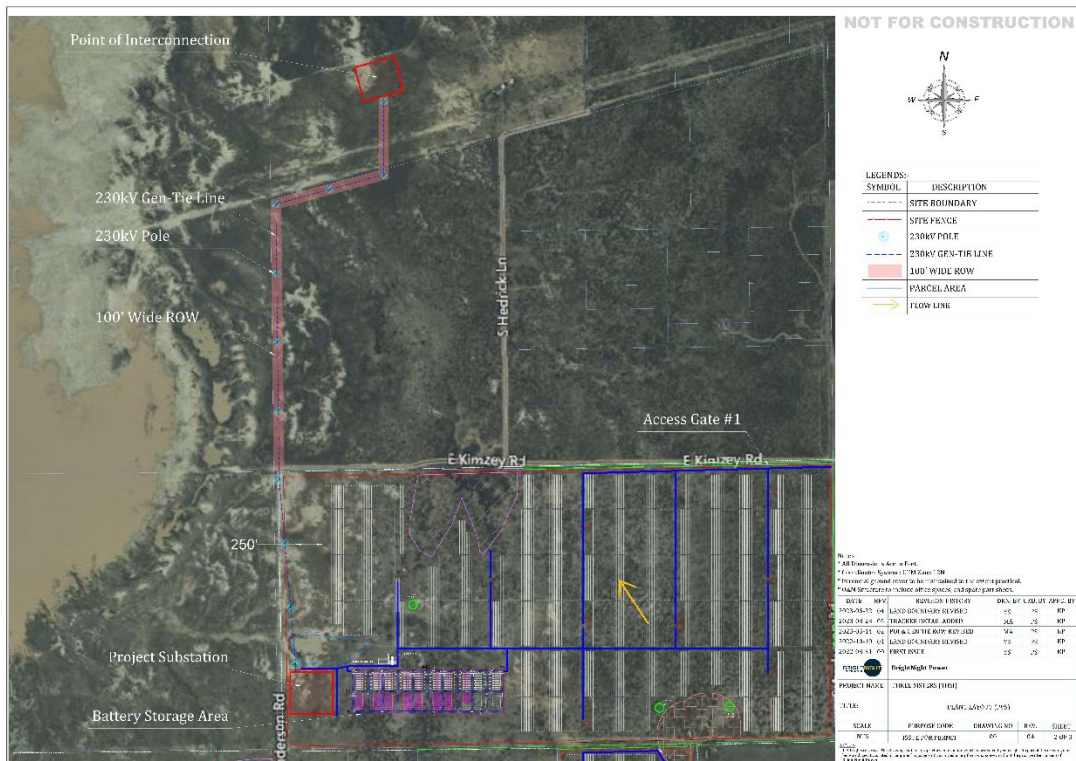
Ultimately, “the Project will generate electricity to be sold under long-term Power Purchase Agreements (PPAs) with an investor-owned utility company/cooperative. An alternative would be for the Project to sell energy to a manufacturer located directly on site.”

Within the application, under “reason to support” the applicant states, “Regional power plants are being retired and electric utility companies/cooperatives continue to update their energy portfolios to include renewable energy sources such as solar generation facilities. The Three Sisters Solar Project (the Project) will provide up to 300 megawatts (MW) of clean renewable power, equivalent to the annual electricity use of 70,000 homes. The Project offers enhanced grid resiliency and support for future load growth needs and strategically positions Arizona to attract more industry to the state via clean power availability.”

Figure 2: Conceptual Site Layout



Figure 3: Conceptual Connection to Grid



**IV. ANALYSIS OF IMPACTS – COMPLIANCE WITH SPECIAL USE FACTORS**

Section 1716.02 of the Zoning Regulations provides a list of ten factors with which to evaluate Special Use applications. Staff uses these factors to help determine the suitability of a given Special Use request, whether to recommend approval for a Special Use Authorization, as well as to determine what Conditions and/or Modifications may be needed.

With the information provided, ten (10) factors apply to this request. The project, as submitted, fully complies with six (6) of the factors. The proposal can be brought into compliance with the remaining four factors with recommended conditions.

Figure 4: Aerial photo of site, looking southwest



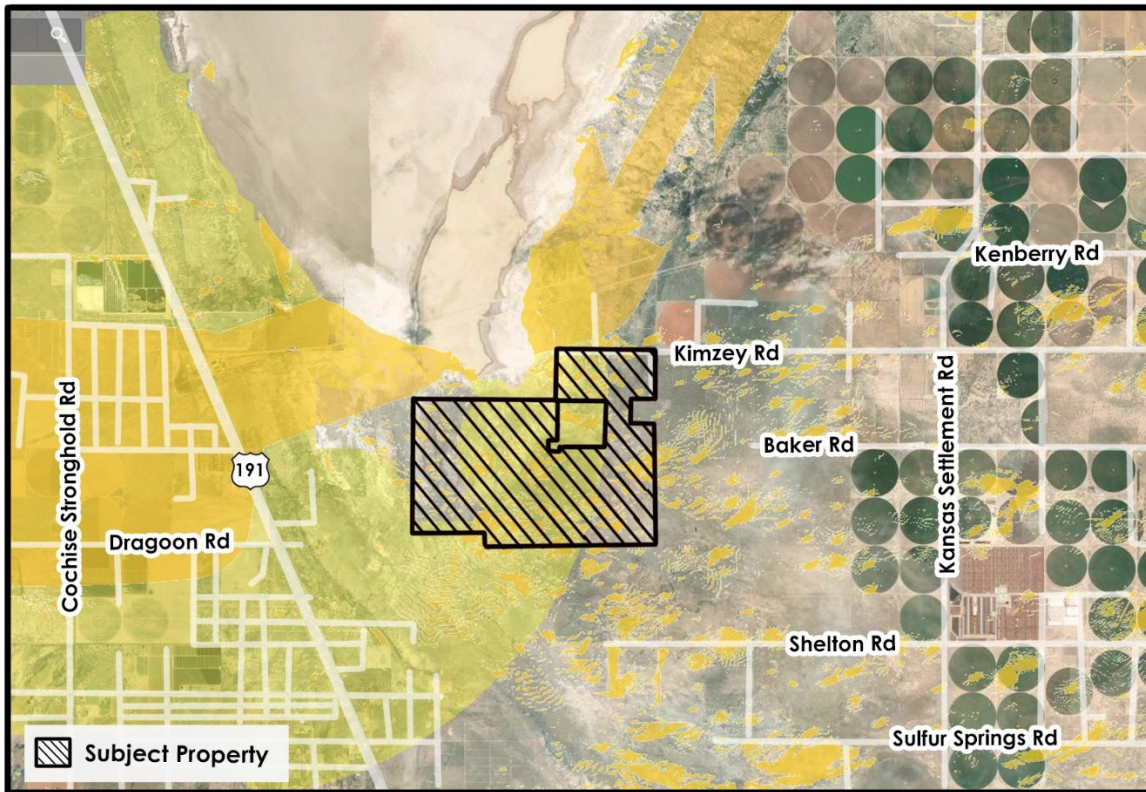
**1. Compliance with Duly Adopted Plans: Complies**

The entire project area is within D-Rural land use. It is not within an Area Plan. The Comprehensive Plan encourages the use of solar energy resources in Element E, Renewable Energy. Goal 1 states: *Support the development of local renewable energy projects and technologies.* This is implemented by several policies including:

- a. *Encourage utility-scale renewable energy projects, using the University of Arizona's Renewable Energy Opportunity Analysis and other resources as a guide for determining the suitability of proposals in any one location.*
- b. *Encourage renewable energy business development.*
- d. *Permit flexible site development standards.*

Approval of this project will, in part, implement the County’s goals of encouraging renewable energy. Policy A of Goal 1 refers to the University of Arizona's Renewable Energy Opportunity Analysis to help determine locational suitability. Figure 5 superimposes this analysis on top of the proposed site of the special use. Areas in yellow and orange are very well suited for solar energy production.

Figure 5: University of Arizona Energy Opportunity Analysis Map



Renewable Energy Opportunity Analysis Map  
SU 23-17 (3 Sisters Solar)



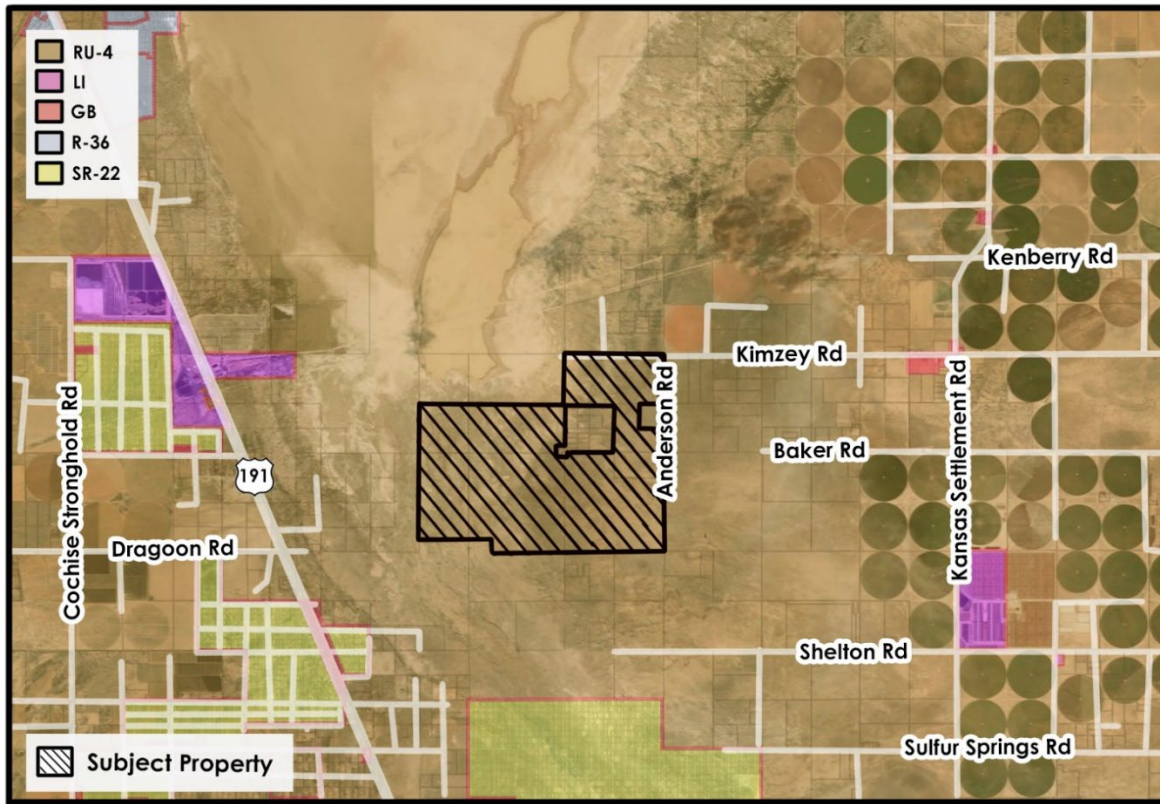
**2. Compliance with the Zoning District Purpose Statement: Complies**

The entire project area is zoned RU-4 (Rural, one dwelling per four acres). Section 601 of the Zoning regulations six purposes for this zoning designation.

Section 601.07 of the Zoning Regulations states: RU (Rural) Zoning Districts are established to allow consideration of some more intense non-residential uses as Special Uses that are inappropriate in more densely populated urban/suburban areas that may under some circumstances be appropriate in rural areas if designed to be sensitive to the general character of rural districts and natural environment and harmonious and in scale with existing development near the proposed site and in conformance with Section 601.06.

Solar energy power plants are considered special uses with the rural zoning. These are land intensive non-residential uses that are not appropriate, or even viable, in more densely population urban/suburban areas of the county.

Figure 6: Zoning



Zoning  
 SU 23-17 (3 Sisters Solar)



**3. Development along Major Streets: Complies**

This criterion seeks to minimize road cuts that create unsafe traffic conflicts, hazardous traffic congestion and obstruct the functioning of arterials. The Applicant proposes direct ingress/egress from Kimzey Road, which is an unpaved minor access local road, which runs east-west. The nearest paved road is Kansas Settlement Road, which is a rural major collector road. Kimzey Road is County-maintained from Kansas Settlement Road to Anderson Road. This is a 3-mile segment, and the project begins where the county maintenance ends on Kimzey Road.

The limited amount of access points and the low traffic demand of the use, once constructed, complies with the requirement to “minimize road cuts that are associated with unsafe traffic conflicts.”

**4. Traffic Circulation Factors: Complies with conditions**

The traffic impact will vary significantly from construction phase (estimated to be 18-months) to operations and maintenance phase (estimated to be 40 years) of the project.

**Construction Traffic Impacts:** According to the application, “During construction, approximately 200 passenger vehicles are anticipated daily (during the peak 5 months) declining on either side of the construction peak time. Equipment deliveries over the life of construction are expected to include approximately twenty-five (25) 40 ft. container trucks/day and five (5) flatbed trucks/day during the peak 5 months of construction. There will be a total of three to five (3-5) oversized loads delivered over the entire construction period (not daily). Heavy construction

equipment (e.g. bulldozers, cranes, pile drivers, folk lifts, etc.) will be used during the construction phase of the Project, but equipment would remain at the site (will not travel on the roads to the site daily).”

**Operations and Maintenance Traffic Impacts:** According to the application, “During operations and maintenance of the Project (most of the Project life), the Project will be remotely monitored through a supervisory control and data acquisition (SCADA) system or manned by 1-3 passenger vehicles/pickup trucks that would visit the site as needed (not expected to be daily). In a regular year, during operations and maintenance of the Project, heavy trucks are not anticipated to visit the site regularly, but it is expected that maintenance at regular intervals (i.e., year 5, year 10, etc.), would require a total of 20 heavy trucks over the course of a month.”

- **Recommended COA:** *The project owner shall submit, in advance or concurrent with their first Commercial Permit, a Traffic Improvement and Maintenance Plan, which successfully mitigates project impacts to Kimzey and Anderson Roads, to the satisfaction of the county. The plan shall include, but not be limited to, a traffic control plan, a dust control plan, a road stabilization plan, and a road maintenance plan.*
- **Recommended COA:** *The project owner shall apply a chemical stabilizer, such as Magnesium Chloride, to Kimzey Road from Kansas Settlement Road to the western project limits, no fewer than four times per year during the project construction phase. Road preparation and application shall follow best practices to improve product performance and shall be in accordance with manufacturer’s specifications.*

#### **5. Adequate Services and Infrastructure: Complies**

As this is an unmanned site that is intended to collect energy, the requirements for services and infrastructure, once constructed, are minimal. Regardless, the proposed project will occupy 2,450 acres of land for approximately 40 years, and consequently requires serious consideration prior to approval. The land considered in this request is almost all vacant, undeveloped, and currently used for grazing.

#### **6. Significant Site Development Standards: Complies with conditions**

##### **Site Plan:**

See Section III: Request Description and Figure 2: Conceptual Site Plan. In addition, the applicant states the following on their application, “The Project site was carefully selected, and the Project layout has been thoughtfully designed. The rural location reduces visual impacts that could potentially affect neighbors and the public. The Project is situated in proximity to an existing Arizona Electric Power Cooperative (AEPSCO) transmission line (immediately north) which will be the point of interconnection for the Project’s associated 1.5 mile long 230 kV gen-tie power line. The Arizona Corporation Commission (ACC) evaluated the Project’s proposed gen-tie line relative to numerous environmental factors specified in Section 40-360.06, Arizona Revised Statutes. The ACC approved a Certificate of Environmental Compatibility (CEC) issued by the Arizona Power Plant and Transmission Line Siting Committee for the Project interconnection in April 2023. The ACC process and period of time it takes to be scheduled for the ACC hearings can often be lengthy; therefore, the Applicant elected to secure that approval ahead of the SUP application for this Project.”

##### **Setbacks:**

Per the section 1824.02 of the zoning regulations, “Setbacks from all property boundaries or edge of road travel ways for Solar Energy Power Plants shall be, at minimum, twice the minimum setback requirement for the respective Zoning District or shall equal the height of the tallest structure, whichever is greater. Setback distance should be measured from the edge of the solar energy system array, excluding security fencing, screening, or berm.” The application consists of several contiguous parcels. The majority of the Project site is owned by the

Applicant (THIS bn, LLC). The Applicant has executed a purchase agreement for the remainder of the Project site to allow the Applicant all rights to build on those parcels (i.e. LIBERTY LAND & CATTLE, LLC [205-28-001 205-28-003B] and WAYNE D. ANDERSON [205-40-001]).

- ***Recommended COA: The project owner shall combine all lots within the project boundaries in advance of their first commercial permit.***

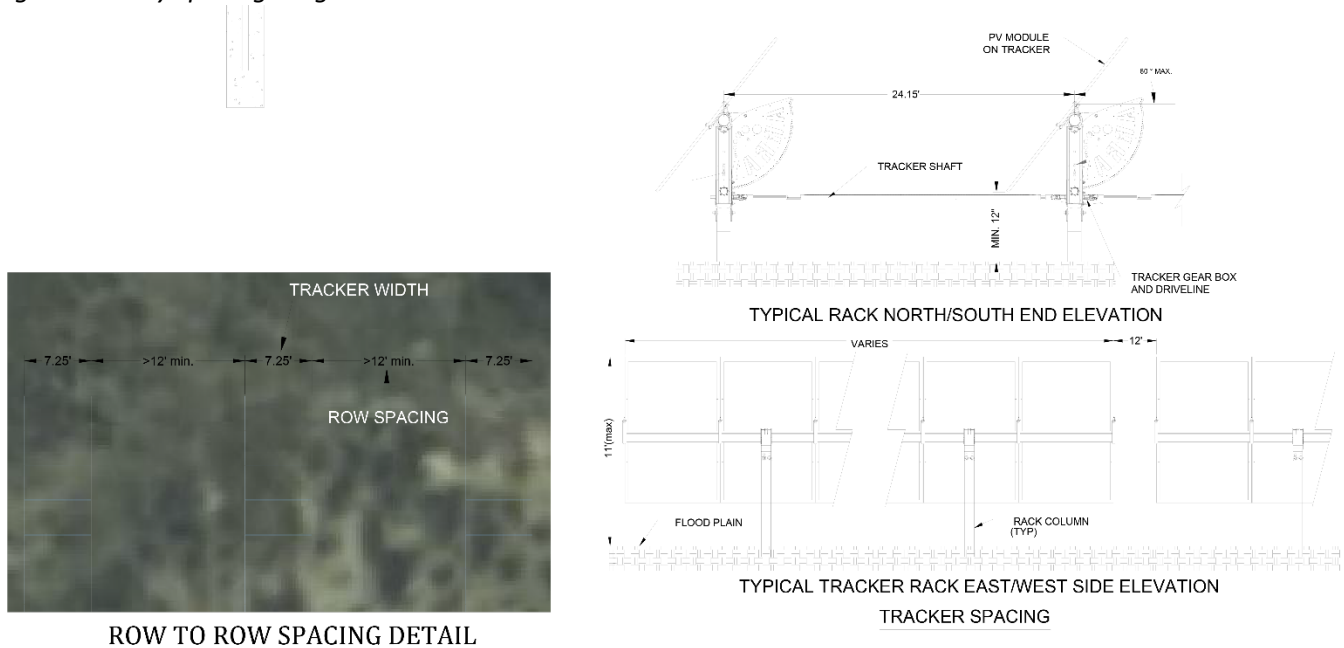
**Lot Coverage and Solar Panel Spacing:**

The Rural Land Use district restricts lot coverage to a maximum of 25%. However, section 1824.03.D, exempts Ground-mounted systems from lot coverage or impervious surface standards if the soil under the collector is maintained with perennial vegetated groundcover and not compacted. As stated in the application, "Post-construction, areas of temporary disturbance will be seeded to restore vegetation. While trees and bushes will need to be removed within the developed areas of the Project site, grasses and short vegetation will remain or be trimmed to the extent practical. Areas of temporary disturbance will be re-stabilized with the application of native seed, re-seeding shall coincide with annual winter and summer rains to avoid the need for irrigation and further water consumption.

From a project functionality standpoint, recent studies have shown that increased spacing of solar panels comes with benefits. Moving rows of solar panels farther apart can increase efficiency and improve economics in certain instances by allowing greater airflow to direct heat away. The increased spacing also allows greater wind flow, which can result in lower module temperatures and higher energy output. Greater spacing is also believed to reduce the "lake effect," in which continuous closely spaced panel arrays create an optical illusion of water. For these reasons, staff recommends a condition, specifying clearance distance between array rows.

- ***Recommended COA: The project owner shall maintain the project site with perennial vegetated groundcover and noncompacted soil. Where grading is not required during project construction, any existing vegetation will be mowed rather than removed completely.***
- ***Recommended COA: The project owner shall exclusively use PV panels with an anti-reflectivity coating that is integral to the panel.***

Figure 7: Array spacing Diagram



**Height:**

Per section 1824,03 of the Zoning Regulations, ground or pole-mounted solar energy systems shall not exceed twenty (20) feet in height when oriented at maximum tilt. The concept plan indicates panels will be a maximum of eleven (11) feet in height at maximum tilt.

**Lighting:**

As stated on the application, “Project lighting at the substation will be installed as recommended by NEC guidelines with at least two-foot candles of strength and shielded to shine down and reduce glare to surrounding areas. Lights around equipment, inverter skids and site entrances (spaced one per approximately 20-30 acres), will be motion detection or switch activated.”

**7. Public Input: Complies**

See Section IV. Public Comment for additional discussion.

**8. Hazardous Materials: Complies with conditions**

Per the application, “The Applicant has contacted the County Emergency Management Director and will prepare an Emergency Response Plan including emergency contacts, hazard analysis and instructions for various emergency situations. The Applicant is also coordinating with the fire departments (Sunsites, Pearce, and Willcox) as they would be among the likely first responders. The Applicant will prepare a construction waste management plan to ensure proper waste disposal and convey compliance requirements during bidding/pre-con meetings.”

- **Recommended COA: The applicant shall submit an Emergency Response Plan in conjunction with building permit submittals for County and fire responder review and approval.**

- ***Recommended COA: The applicant shall submit a waste disposal plan to ensure proper waste disposal. Plan shall be submitted in conjunction with building permit submittals for County review and approval.***

### 9. Off-Site Impacts: Complies with conditions

Major off-site impacts could include temporary construction traffic, dust, noise, and long-term dust, noise and visual impacts/glare. Some impacts are mitigated by the proposed concept plan, while others can be mitigated by conditions. The following section considers all off site impacts and potential mitigation measures.

- Communication interference – The Project is located outside of the Ft, Huachuca electronic testing range complex. It is also near an existing AEPCO line. A direct communication with Alanna Riggs, in the Office of the Commanding General, on December 15, 2022, noted that Fort Huachuca had no concerns with regards to the proposed Project. The Project is not expected to interfere with normal radio reception. The Project must also comply with all Federal Aviation Administration and FCC rules and requirements.
- Odor – proposed special use will not generate noticeable odors during construction or operation.
- Glare –As stated on the application, “Solar panels are specifically designed to absorb sunlight, not reflect it. They have an anti-reflective coating that allows them to absorb and utilize as much sunlight as possible to generate electricity.” These coatings help retain maximum solar energy. At the same time, this can lessen potential visual distraction to drivers and lessen the appearance of the project as a body of water to birds, reducing bird attraction to the site.
  - ***Recommended COA: The project owner shall exclusively use PV panels with an anti-reflectivity coating that is integral to the panel.***
  - ***Recommended COA: To reduce the optical illusion of water that closely spaced panels can create, all solar racks shall be installed to maintain no less than a twelve (12) foot minimum clear distance, measured from outer edge of panels, between all tracker rows (north-south). The applicant shall not exceed a 35% ground cover ratio, defined as panel area to total project area, for the project site.***
- Noise – As stated in the application, “Noise impacts associated with utility-scale solar and battery projects occur primarily during construction. Heavy equipment is needed for site preparation and construction, similar to any construction project. Once operational, electrical discharge from transmission lines, operation of inverters, and the rotation of solar trackers can create humming or buzzing noises, though these noises will be minimal and would not affect any area outside the Project.”
- Traffic – See Section IV. Traffic Circulation for discussion and recommended conditions.
- Lighting: Solar energy power plants are not light intensive uses. The applicant states, “Project lighting at the substation will be installed as recommended by NEC guidelines with at least two-foot candles of strength and shielded to shine down and reduce glare to surrounding areas. Lights around equipment, inverter skids and site entrances (spaced one per approximately 20-30 acres), will be motion detection or switch, with the exception of the substation area where the lights will be shielded to limit the area of illumination.
- Dust - The construction phase of the Project is likely to temporarily cause fugitive dust related to grading, vehicle traffic and other construction activities. Dust is produced when loose soil and dirt particles escape from the ground surface and fly into the air. Dust is harmful due to the negative effects it can pose on people’s health, as those who are exposed to large amounts of dust can have difficulty breathing and experience excessive coughing. Dust and erosion control measures will be detailed in a Stormwater Pollution Prevention Plan. The Construction General Permit must follow ADEQ and EPA requirements. A

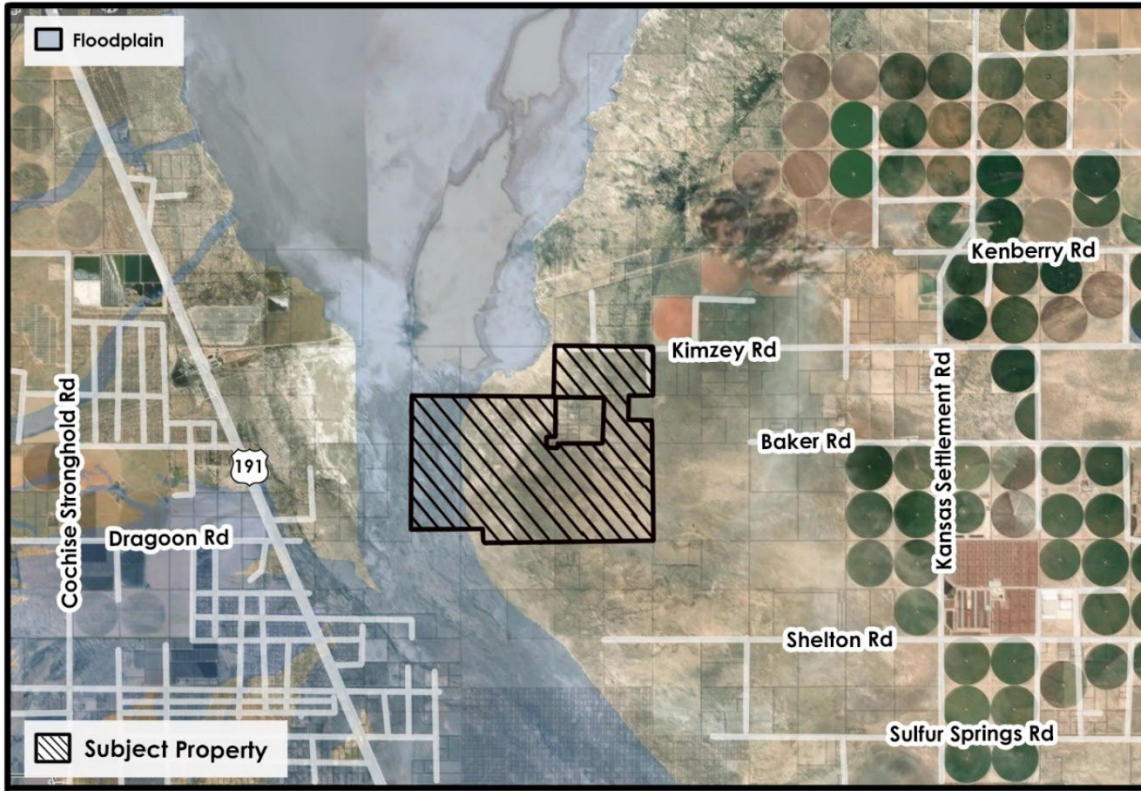
Notice of Intent to Clear Land will be filed with the Arizona Department of Agriculture, prior to clearing/trimming vegetation. The following BMPs will be incorporated to minimize fugitive dust and wind erosion:

- Minimize grading and vegetation removal.
- In areas where vegetation removal and/or grading is required, schedule the process of vegetation removal to the minimum time required prior to module installation.
- Limit vehicle speed on access road and on solar facility roads to 15 miles per hour.
- Apply water to disturbed soil areas using water trucks to control dust and maintain proper moisture levels for soil compaction. Minimize over application of water to prevent runoff and ponding.
- Suspend grading during periods of high wind.
- Cover all trucks hauling soil or other loose material in and out of the proposed Project site.
- Gravel or aggregate should be used where access roads meet paved roads to limit offsite disturbance and prevent mud and dirt track-out.

Kimzey Road is a county-maintained dirt road. There is a three-mile segment from Highway 191 to the northern project boundaries. Anderson Road, which is a small, local, dirt road is also adjacent to the eastern boundary of the project site. Staff has concerns about fugitive dust from on-site construction as well from vehicles accessing the site.

- ***Recommended COA: The applicant shall include all BMPs listed as part of note 10 of their application for dust mitigation on their Stormwater Pollution Prevention Plan.***
- ***Recommended COA: The project owner shall submit, in advance or concurrent with their first Commercial Permit, a Traffic Improvement and Maintenance Plan, which successfully mitigates project impacts to Kimzey and Anderson Roads, to the satisfaction of the county. The plan shall include, but not be limited to, a traffic control plan, a dust control plan, a road stabilization plan, and a road maintenance plan.***
- ***Recommended COA: The project owner shall apply a chemical stabilizer, such as Magnesium Chloride, to Kimzey Road from Kansas Settlement Road to the western project limits, no fewer than four times per year during the project construction phase. Road preparation and application shall follow best practices to improve product performance and shall be in accordance with manufacturer's specifications.***
- Stormwater and Floodplains: The applicant submitted a pre-construction hydrology assessment with their application. As stated in the assessment, "The purpose of this analysis is to provide hydrologic and hydraulic calculations throughout the study area to support the construction of the Three Sisters Solar Project. Depth and velocity quantities are desired at solar array locations to determine conflict areas for the solar array. Additionally, scour depths are utilized to avoid pile supports in areas where the potential for weakened foundations may occur or to inform where scour protection may be required. The AHJ lies with Cochise County. Stormwater management requirements must follow the guidelines established by ADEQ and are managed by the state. Typical facilities can achieve acceptable water quality by conserving open space with large portions of project site remaining undisturbed in a natural state. Where required, the use of detention basins can achieve water quality requirements. The feasibility of the project is highly achievable and ideal for a solar energy facility due to the minimal grading necessary for typical development. A post-construction analysis is recommended to verify that the proposed grading doesn't negatively impacts the existing hydraulics." In addition, the County will require a drainage analysis and floodplain use permit for the site during commercial permitting, if approved for special use authorization.

Figure 8: Floodplain Map



Floodplain  
 SU 23-17 (3 Sisters Solar)



**10. Water Conservation: Complies**

There will be no employees or customers coming to the site. The proposed Solar PV Energy system does not require on-site water to function on a daily basis. According to the application, "It is anticipated that a new non-potable well would be installed within the Project site to provide the water for construction and for cleaning of the solar panels after construction. Existing well sites as mapped by ADWR are provided on the Site Plan. If required, a new well site will be sited prior to development service review of a final Site Plan. The Project requires less than 230,000 gallons per year; that's equivalent to about 4 residential homes assuming 146 gallons/day per average AZ resident according to the Arizona Department of Water Resources (ADWR)."

**VI. ADDITIONAL STUDIES PROVIDED**

As stated in 1824.02 of the Zoning Regulations, "site-specific conditions and/or project scope may require that Applicants provide drainage and soil reports, water budgets and conservation measures, environmental assessments or environmental impact statements, visual impact analyses, FAA obstruction analysis, and/or cultural resources assessments with their application." Due to the scale and location of this application, the

following additional studies were provided at the time of the special use application:

- Attachment B. Citizen Review Report
- Attachment C. Visual Simulations
- Attachment D. Hydrology Report
- Attachment E. Approved Jurisdictional Determination Request
- Attachment F. Biological Evaluation
- Attachment G. Traffic Statement Report

The following is a summation of those reports. The full reports are also a part of this docket, for the commission's review.

- **Citizen Review Report:** The Applicant conducted two major public outreach efforts in connection with the Project: (1) Arizona Corporation Commission outreach associated with the gen-tie line for the Project (but also referred to the solar power generation and battery storage portion of the Project), and (2) Cochise County SUP citizen outreach associated with the solar energy power plant and battery storage facility. As stated on page one of this report, "To reach the affected residents and agencies, the Applicant instituted multiple public participation activities, including public open house meetings, jurisdictional meetings, agency briefings, newsletter mailings, business canvassing, newspaper advertisements, and a website (<https://brightnighpower.com/three-sisters/>)"
- **Visual Simulations:** Visual simulations were generated for six discrete locations near the project. All locations were outside project boundaries, facing the project. The closest simulation was 68 feet southeast of the nearest proposed structure (Key Observation Point #6 West, below).

Key Observation Point (KOP) #6 west



Existing Condition



Simulated Condition

The remainder of the visual simulations ranged in distances from KOP to project site between 1,510 feet and 3.41 miles. The difference in the appearance of the project site, when compared to existing conditions, seemed visually negligible.

- **Hydrology Assessment:** See stormwater and floodplains under offsite impacts.
- **Approved Jurisdictional Determination Request:** An Approved Jurisdictional Determination Request is a conducted to determine whether jurisdictional “waters of the United States” or “navigable waters of the United States” are either present or absent on a site. The applicant considers the Willcox Playa, surface water features, wetlands, tributaries, isolated water and non-jurisdictional waters. The (AJD) request is being submitted by WestLand on behalf of the Applicant and is intended to facilitate and inform planning being undertaken by the Applicant.
- **Biological Evaluation:** As stated in the report “The Biological Evaluation (BE) was prepared to support acquisition of both authorizations and provides an assessment for both the solar energy generating facility, the gen-tie line, Project substation, and Project switchyard within a 500-foot buffer (Analysis Area). The report includes a list of mammal species that may occur in the area, bird species that may occur in the area, and reptile and amphibian species that may occur in the area. A screening analysis was completed to evaluate the potential for special-status species or proposed or designated critical habitat to occur within the Analysis Area. ESA-listed species and critical habitat considered for evaluation are those that were identified in the USFWS Information for Planning and Consultation (IPaC) report

generated for the Project. An overview of the federal protection status, known suitable habitat, total range, distribution in Arizona, and potential to occur within the Analysis Area for ESA and other special-status species is provided in Table 4 of the Biological Evaluation.

- **Recommended COA: Pursuant to 1824.03 of the Zoning Regulations, which mandates wildlife-friendly fencing, the applicant shall reserve a 6–8-inch gap between the ground surface and the bottom of the perimeter fencing.**
- **Recommended COA: The area indicated as “wildlife linkage” on the concept plan shall remain free of any solar modules, batteries, inverters, transformers, and security fencing.**
- **Traffic Statement Report:** As stated in the report, “The 2,450 acres of the proposed Three Sisters Solar Farm site are currently zoned for one single-family home per four (4) acres. Therefore, with current zoning, the site property could currently have a maximum of 613 single-family homes.” The potential trip generation rate for 613 single-family homes is significantly greater than that for the proposed development, once constructed.

### **VIII. PUBLIC COMMENT**

The Applicant conducted two public outreach efforts in connection with the Project: (1) Arizona Corporation Commission outreach associated with the gen-tie line for the Project, and (2) Cochise County SUP citizen outreach associated with the solar energy power plant and battery storage facility.

SUP Outreach: The applicant mailed letters to property owners within 1,500’ of the property prior to their application submittal on June 29, 2023. The case planner mailed letters to the same property owners within 1,500’ of the subject property (June 7, 2023), published a legal ad in the *Sierra Vista Herald* (July 14, 2023), and posted legal notices on the property (July 14, 2023). To date, staff has received one letter of opposition, one letter of support, and one letter with offsite impact concerns. All written responses have been attached for the commission’s review.

### **IX. WAIVERS**

Request 1: (Zoning Reg 1824.02 Setbacks) As stated in Zoning, “1. Setbacks from all property boundaries and road travel ways for Solar Energy Power Plants shall be, at minimum, twice the minimum setback requirement for the respective Zoning District [RU-4 = 20-feet (40 ft total)] or shall equal the height of the tallest structure, whichever is greater. 2. Setback distance should be measured from the edge of the solar energy system array, excluding security fencing, screening, or berm.”

The applicant requests that setback distance to be measured from the outer edge of the solar energy system array, excluding security fencing, screening, or berm for design flexibility.

***Modification not required; the request complies with how setbacks are measured.***

Request 2. (Zoning Reg. 1824.03.G) Applicant requests a waiver from the following requirement: All on-site utility and transmission lines, including power and communication lines running between banks of solar panels and to nearby electric substations or interconnections with buildings shall be buried underground to the maximum extent feasible. Power and communication lines between the project and the point of interconnection with the transmission system may be overhead.

*The applicant states, "Above-ground, low- to medium-voltage lines minimize the need for ground disturbance that would otherwise be necessary if the lines were buried in trenches. As a result, this approach reduces potential impacts on wildlife and minimizes the generation of dust during construction, operations, maintenance, and decommissioning activities. Open trenches are a potential safety hazard during construction. An above ground cable system eliminates the need for multiple trenches between each row of panels. It will instead collect cables from multiple rows and facilitates burying all of them in one trench. The quantity of cables and terminations on a solar site makes it harder for QAQC teams and county inspectors to evaluate the electrical install. Having above ground cables and terminations enables a more robust inspection which leads to higher quality builds and safety standards. The solar industry across the US has moved to this solution as it is a better design for every stage of the project. Furthermore, the above-ground cable would not be visible beyond the project boundary."*

***Underground lines have fewer associated conflicts with birds and other wildlife. They are also safer in cases of natural disasters, like wildfire and extreme wind. The regulation requires, "to the maximum extent feasible" – this is intended to allow limit above ground line use, to areas where the applicant has demonstrated to the satisfaction of staff, that site conditions like shallow bedrock, washes, floodplains, or other elements of natural landscape interfere with the ability to bury lines. Power and communication lines between the project and the point of interconnection with the transmission system may be overhead.***

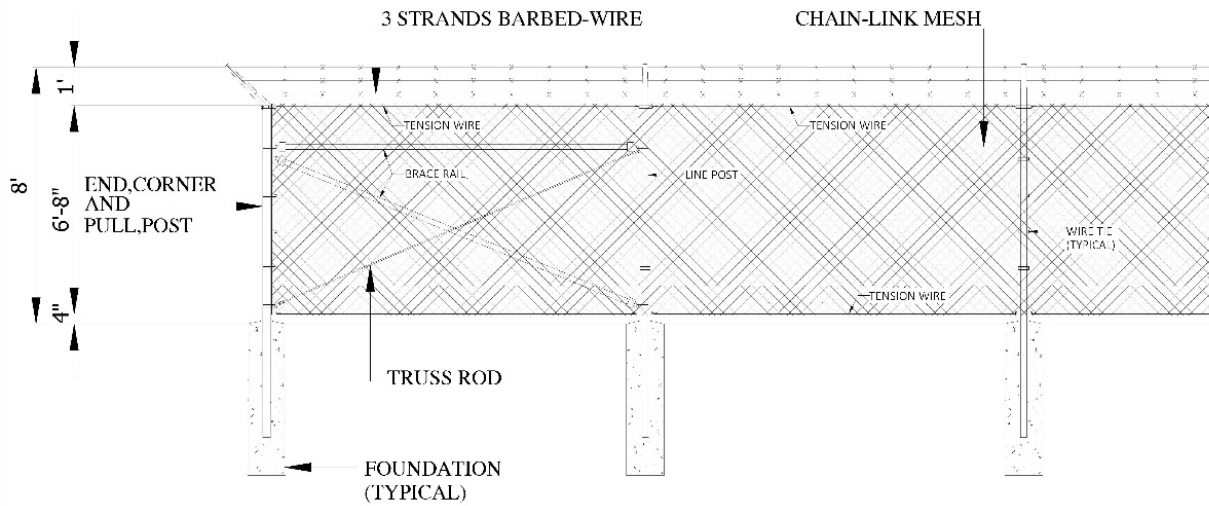
**Request 3:** (Zoning Regulation 1824.06) Regulations state, "All applications for a Solar Energy Power Plant must include a Decommissioning Plan, acceptable to the County, to ensure that all system components are properly decommissioned upon the end of their operational life, cessation of use, or determination of abandonment. The Decommissioning Plan shall state how the facility will be decommissioned and will include a Professional Engineer's estimated cost of decommissioning, the financial resources to be used to accomplish decommissioning, and the financial assurances necessary to fund the decommissioning."

The Applicant is requesting this requirement be submitted with the building permit rather than SUP, so that the estimate can be made according to the basis of the final design.

***Modification not required; the request complies with zoning requirements – a decommissioning plan is required for permit applications.***

**Request 4: (1824.03 of the Zoning Regulations)** As stated in Zoning, "Fencing: Perimeter fencing for the site shall incorporate wildlife-friendly fencing standards specific to the site to the greatest extent possible."

The applicant has provided the following detail for the proposed wildlife-friendly fencing.



WILDLIFE FRIENDLY SECURITY FENCE TYPICAL DETAIL \*

There is a 4” gap proposed from finished grade to the bottom tension wire of a chain link mesh fence. Three strands of barbed wire are proposed at the top.

The applicant states, “In our meetings with the Arizona Game and Fish Department (AGFD) for this Project, we reviewed fence height, bottom fence gap and fence types. It was determined that a 4-to-8-inch gap is acceptable in this location. AGFD accepts a 4-inch gap between the ground surface and bottom of the perimeter fencing for this Project, based on the smallest size that would accommodate kit fox permeability. The applicant proposes 4 inches for security reasons.”

It is up to the commission to determine whether the proposed fence meets the threshold to be considered wildlife friendly. Two of the most recently approved solar projects, one of which was recently constructed, include a larger 6-8” bottom gap. **Staff recommends, pursuant to 1824.03 of the Zoning Regulations, which mandates wildlife-friendly fencing, that the applicant reserve a 6–8-inch gap between the ground surface and the bottom of the perimeter fencing; however, applicant contends a 4-inch gap is sufficient to satisfy the requirement.**

REQUEST #5: (Zoning Reg 1824.02 Setbacks) As stated in Zoning, “1. Setbacks from all property boundaries and road travel ways for Solar Energy Power Plants shall be, at minimum, twice the minimum setback requirement for the respective Zoning District [RU-4 = 20-feet (40 ft total)] or shall equal the height of the tallest structure, whichever is greater. 2. Setback distance should be measured from the edge of the solar energy system array, excluding security fencing, screening, or berm.”

*The applicant requests a waiver from setbacks required to internal parcel boundaries (Zoning regulations 1824.03). Instead, minimum setbacks of 40’ shall only be applied to the exterior boundaries of the Project indicated by the concept plan.*

**Staff has supported this request in the past, particularly in situations where the combination of parcels was not feasible due to the combined use of public/private lands within project boundaries. In this case, all land is under**

*private ownership by THIS bn, LLC. Staff recommends that the project owner combine lots prior to submitting for building permits, which would make this request/waiver unnecessary.*

**X. SUMMARY AND CONCLUSION**

Authorization to approve the construction of a solar power generation facility and Battery Energy Storage System (BESS), with the potential for future expansion of up to 300 MW Solar Energy Power Plant and Battery Energy Storage System (BESS) Project on 2,450 acres of land.

**Factors in Favor of Approval**

1. The project is consistent with the applicable Policies of the Comprehensive Plan and the Purpose of the Rural Zoning Districts;
2. The project complies with most of the criteria used to evaluate special use requests;
3. The site plan submitted complies with most applicable site development standards and conditions;
4. Once completed the project would generate negligible levels of traffic and would use minimal water, and would require minimal services and infrastructure;
5. The project would serve as a source of clean energy, offsetting greenhouse gas emissions and reducing the need to generate electricity from fossil fuels; and
6. The electricity generated by this project offers enhanced grid resiliency and support for future load growth needs.

**Factors Against Approval**

1. Project construction will likely generate fugitive dust. While the placement of a solar facility will not necessarily increase dust transmission in the long-term, without long term soil stabilization, dust transmission will also not improve;
2. General compatibility and aesthetics concerns – the surrounding terrain is flat, and the area is undeveloped. This project has a large footprint;
3. Avian and wildlife concerns – the Willcox Playa and Cochise Lakes Area is considered an “Important Bird Area.” Also, AZGF considers this general area to be an important wildlife connectivity zone. The project risks reducing habitat connectivity and wildlife movement/migration unless specific design features are incorporated to provide a pathway for the wildlife.

**XI. RECOMMENDATION**

Based on the factors in favor of approval, staff recommends **Conditional Approval** of the Special Use request, subject to the following conditions\*:

1. The project owner shall submit, in advance or concurrent with their first Commercial Permit, a Traffic Improvement and Maintenance Plan, which successfully mitigates project impacts to Kimzey and Anderson Roads, to the satisfaction of the county. The plan shall include, but not be limited to, a traffic control plan, a dust control plan, a road stabilization plan, and a road maintenance plan.
2. The project owner shall apply a chemical stabilizer, such as Magnesium Chloride, to Kimzey Road from Kansas Settlement Road to the western project limits, no fewer than four times per year during the project construction phase. Road preparation and application shall follow best practices to improve product performance and shall be in accordance with manufacturer’s specifications.
3. Pursuant to 1824.03 of the Zoning Regulations, which mandates wildlife-friendly fencing, the applicant shall reserve no less than a 4-inch gap between the ground surface and the bottom of the perimeter fencing.

4. The project owner shall maintain the project site with perennial vegetated groundcover and noncompacted soil. Where grading is not required during project construction, any existing vegetation will be mowed rather than removed completely.
5. The project owner shall exclusively use PV panels with an anti-reflectivity coating that is integral to the panel.
6. The project owner shall submit an Emergency Response Plan in conjunction with building permit submittals for County and fire responder review and approval.
7. The project owner shall submit a construction waste disposal plan in conjunction with building permit submittals for County review and approval.
8. To reduce the optical illusion of water that closely spaced panels can create, all solar racks shall be installed to maintain no less than a twelve (12) foot minimum clear distance, measured from outer edge of panels, between all tracker rows (north-south).
9. The project owner shall include all BMPs listed as part of note 10 of their application for dust mitigation on their Stormwater Pollution Prevention Plan.
10. The area indicated as "wildlife linkage" on the concept plan shall remain free of any core project elements subject to this special use, including solar modules, batteries, inverters, transformers, and security fencing.
11. The commission grants a waiver from Zoning Reg. 1824.03.G, which mandates that all on-site utility and transmission lines, including power and communication lines running between banks of solar panels and to nearby electric substations or interconnections with buildings shall be buried underground to the maximum extent feasible. Power and communication lines between the project and the point of interconnection with the transmission system may be overhead.
12. The commission grants a waiver from Zoning Reg. 1824.03 which is a setback required to internal parcel boundaries. Instead, minimum setbacks of 40' shall only be applied to the exterior boundaries of the Project, as indicated by the concept plan.

\* Standard conditions related to acceptance of conditions, permitting timeframes, and modifications apply, and have not been modified by this request

**Sample Motion:**

*Madam Chair, I move to approve Docket SU-23-17 (3 Sisters Solar), with the Conditions of Approval recommended by staff and waiver requests requested by applicant; the Factors of Approval constituting Findings of Fact.*