

## SU 23-17 (Three Sisters Solar)

Special Use Authorization to construct, operate,  
and maintain a proposed Solar Energy Power  
Plant and Battery Energy Storage System in a Rural  
Zoning District

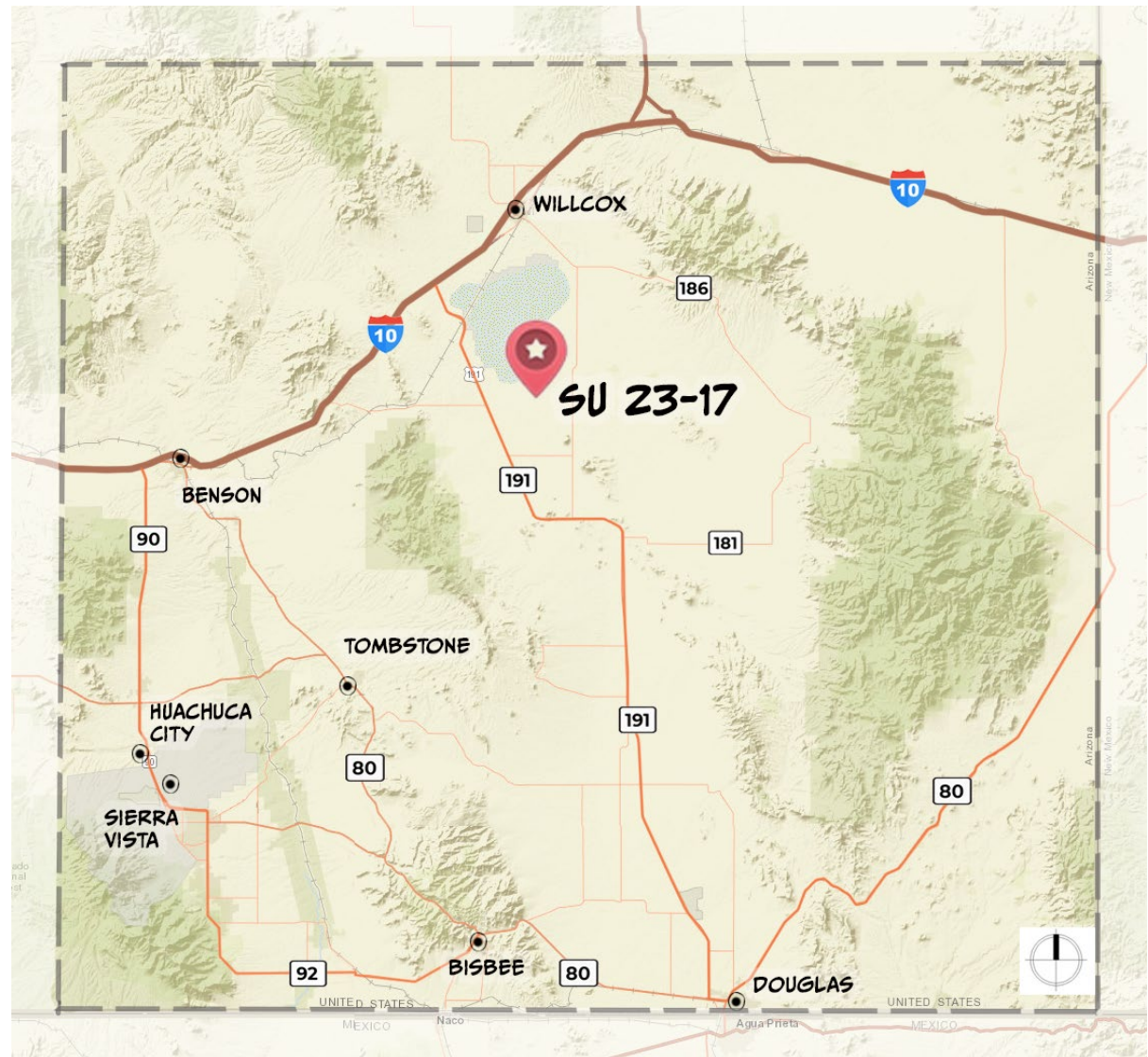
**Planning & Zoning Commission**

**August 9, 2023**

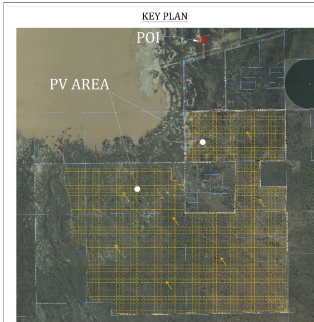


# DEVELOPMENT SERVICES

- This is a request to allow a 300 MW phased solar facility with 300 MW battery storage
- Multiple parcels (see report/application), 2,450 acres (approx.)
- THIS bn, LLC, rep. by Diana Sandoval (applicant)
- Undeveloped land in unincorporated Willcox, south of the playa



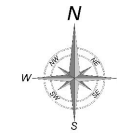
# DEVELOPMENT SERVICES



SYMBOL	DESCRIPTION
	SITE BOUNDARY
	SITE FENCE
	SETBACK LINE
	NATURAL DRAIN
	POND (CATTLE TANK)
	RESIDENCES
	FLOOD AREA
	TRACKER
	EXISTING WELL LOCATION
	COUNTY ROAD
	INVERTER SKID

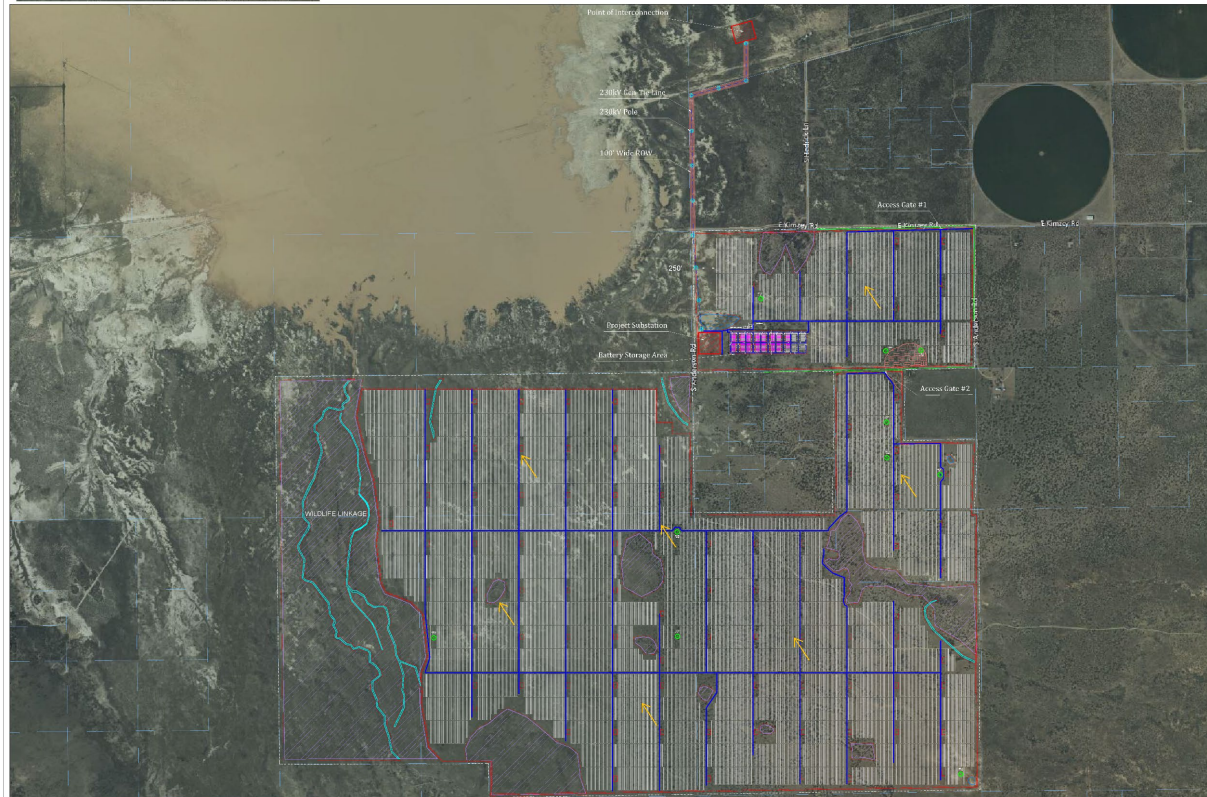
SYMBOL	DESCRIPTION
	PLANT INTERNAL ROADS (15')
	230kV POLE
	230kV GEN-TIE LINE
	100' WIDE ROW
	PARCEL AREA
	ACCESS GATE
	FLOW LINE

NOT FOR CONSTRUCTION



## Project Details

Site latitude	32° 2'45.41"N
Site longitude	109°50'22.89"W
Solar PV DC capacity	360.003 MWp
Solar PV AC capacity at POI	300MW
DC AC ratio at POI	1.200
Evacuation voltage	230kV
Module wattage	525Wp
Module type	Bifacial
Module quantity	685720
Module per string	28
Total strings	24490
Inverter rating	4MWac
Inverter type	Central
Inverter quantity	91
Racking type	ATI Tracker
Pitch	24.15 Feet
Ground coverage ratio	30%
Tracker quantity_4 String	5512
Tracker quantity_3 String	688
Tracker quantity_2 String	189
Total tracker quantity	6389
BESS Capacity	300MW
BESS MWh	1200MWh
BESS Inverter Rating	4.2MW
BESS Transformer Rating	4.2MVA
BESS Inverter Quantity	78
Available land area	2442 acres
Land area used for PV	1982 acres



Note:  
 \* All Dimensions Are in Feet.  
 \* Coordinates System : UTM Zone 12N  
 \* Perennial ground cover to be maintained to the extent practical.  
 \* O&M Structure to include office spaces, and spare part sheds.

DATE	REV	REVISION HISTORY	DRN. BY	CKD. BY	APPD. BY
2023-06-22	04	LAND BOUNDARY REVISED	YS	PS	KP
2023-03-23	03	TRACKER DETAIL ADDED	MA	PS	KP
2023-03-14	02	POI & GEN TIE ROW REVISED	MA	PS	KP
2022-10-10	01	LAND BOUNDARY REVISED	YS	PS	KP
2022-03-31	00	FIRST ISSUE	YS	PS	KP

**BRIGHTNIGHT** BrightNight Power

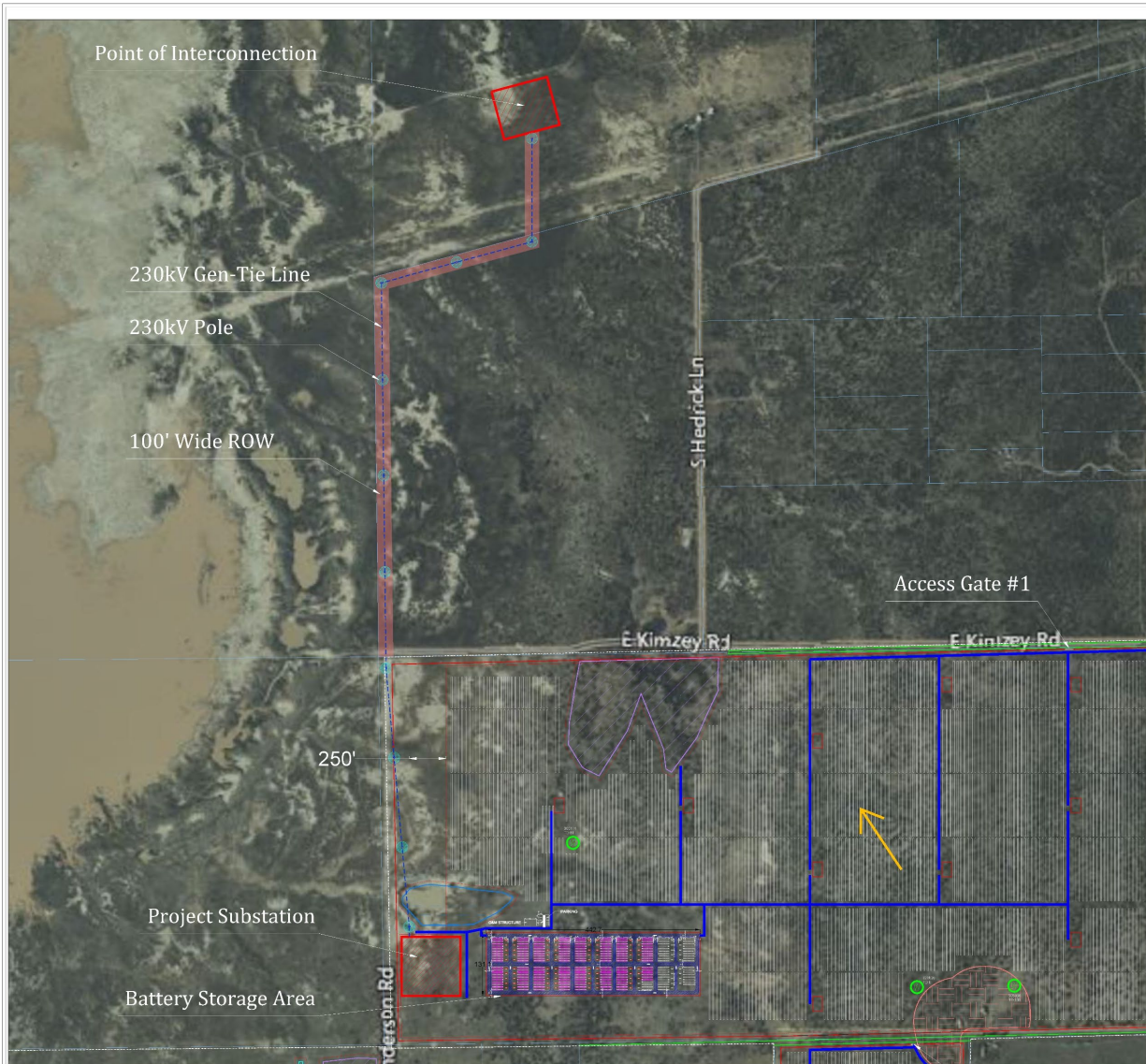
PROJECT NAME: THREE SISTERS (THSI)

TITLE:- PLANT LAYOUT (PVS)

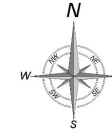
SCALE	PURPOSE CODE	DRAWING NO.	REV.	SHEET
NTS	ISSUE FOR PERMIT	00	04	1 OF 3

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# DEVELOPMENT SERVICES



NOT FOR CONSTRUCTION



LEGENDS:-	
SYMBOL	DESCRIPTION
---	SITE BOUNDARY
---	SITE FENCE
⊕	230kV POLE
---	230kV GEN-TIE LINE
█	100' WIDE ROW
█	PARCEL AREA
→	FLOW LINE

Note:-

- \* All Dimensions Are in Feet.
- \* Coordinates System : UTM Zone 12N
- \* Perennial ground cover to be maintained to the extent practical.
- \* O&M Structure to include office spaces, and spare part sheds.

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**BRIGHTNIGHT** BrightNight Power

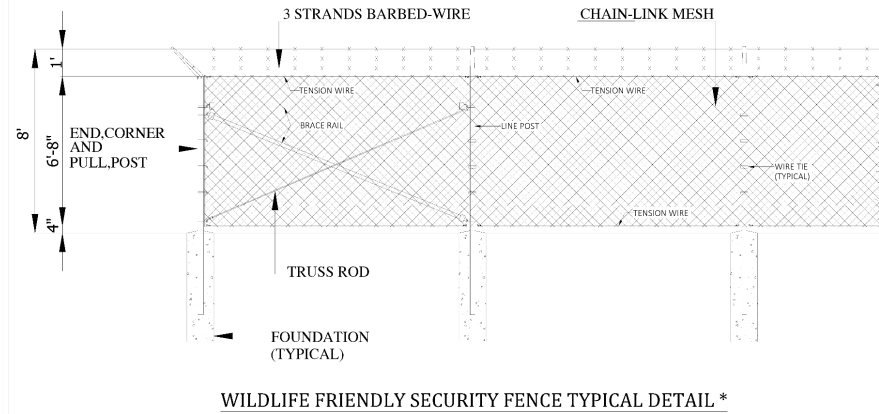
PROJECT NAME: THREE SISTERS (THIS)

TITLE:-		PLANT LAYOUT (PVS)			
SCALE	PURPOSE CODE	DRAWING NO.	REV.	SHEET	
NTS	ISSUE FOR PERMIT	00	04	2 OF 3	

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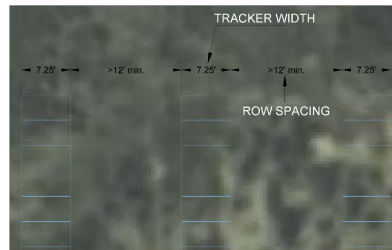
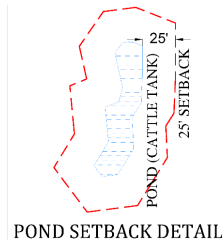
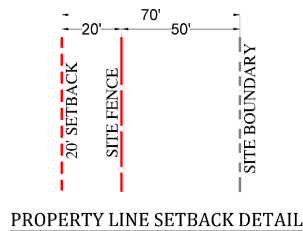
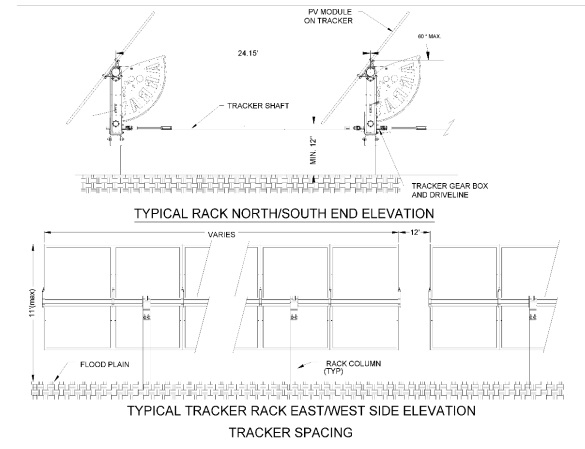
# DEVELOPMENT SERVICES

NOT FOR CONSTRUCTION

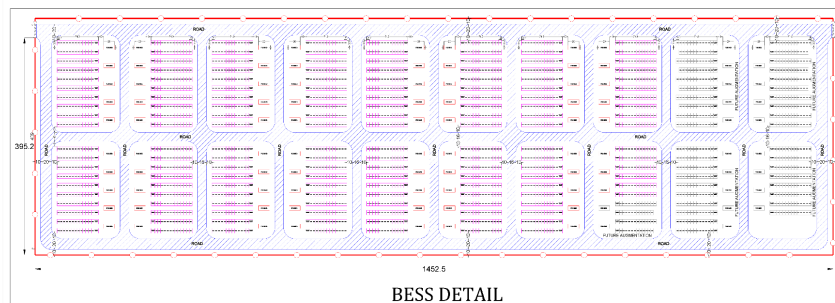


### Setback details

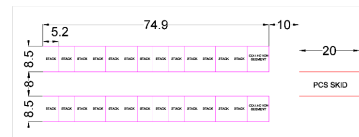
Setback description	Setback value
Plant property line and fence setback	50'
Area between fence and array	20'
Pond (cattle tank) setback	25'
County road setback	50'
Flood area setback	25'
Residential setback	300'



ROW TO ROW SPACING DETAIL



BESS DETAIL



TYPICAL DETAIL OF BESS AND PCS SKID

- Note:  
 \* All Dimensions Are in Feet  
 \* Coordinates System : UTM Zone 12N  
 \* Perennial ground cover to be maintained to the extent practical.  
 \* O&M Structure to include office spaces, and spare part sheds.  
 \* The fence specification is based on the Game and Fish Dept's recommendations

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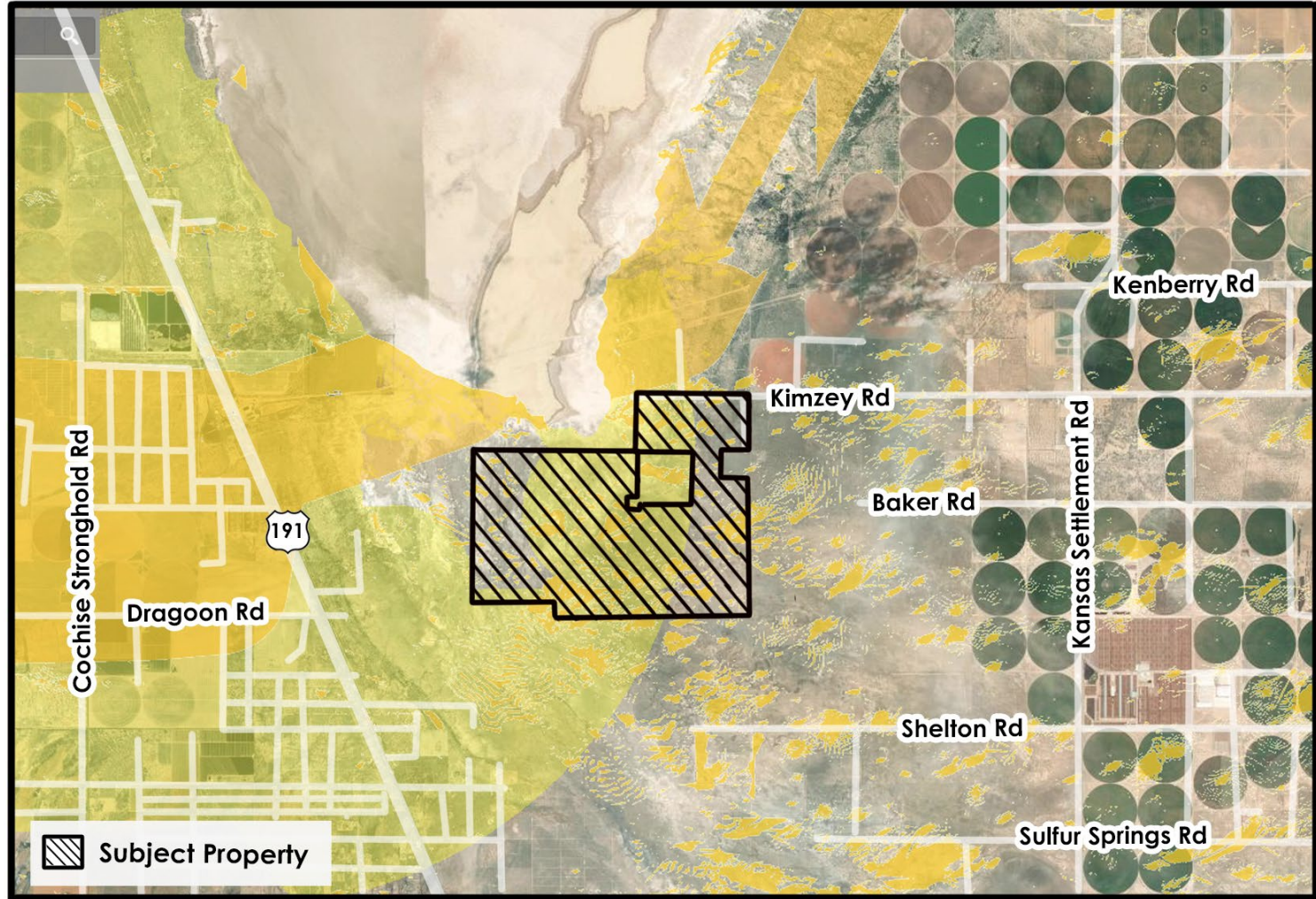
<b>BRIGHTNIGHT</b> BrightNight Power				
PROJECT NAME	THREE SISTERS (THS)			
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NTS	ISSUE FOR PERMIT	00	04	3 OF 3

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## The Site



# DEVELOPMENT SERVICES

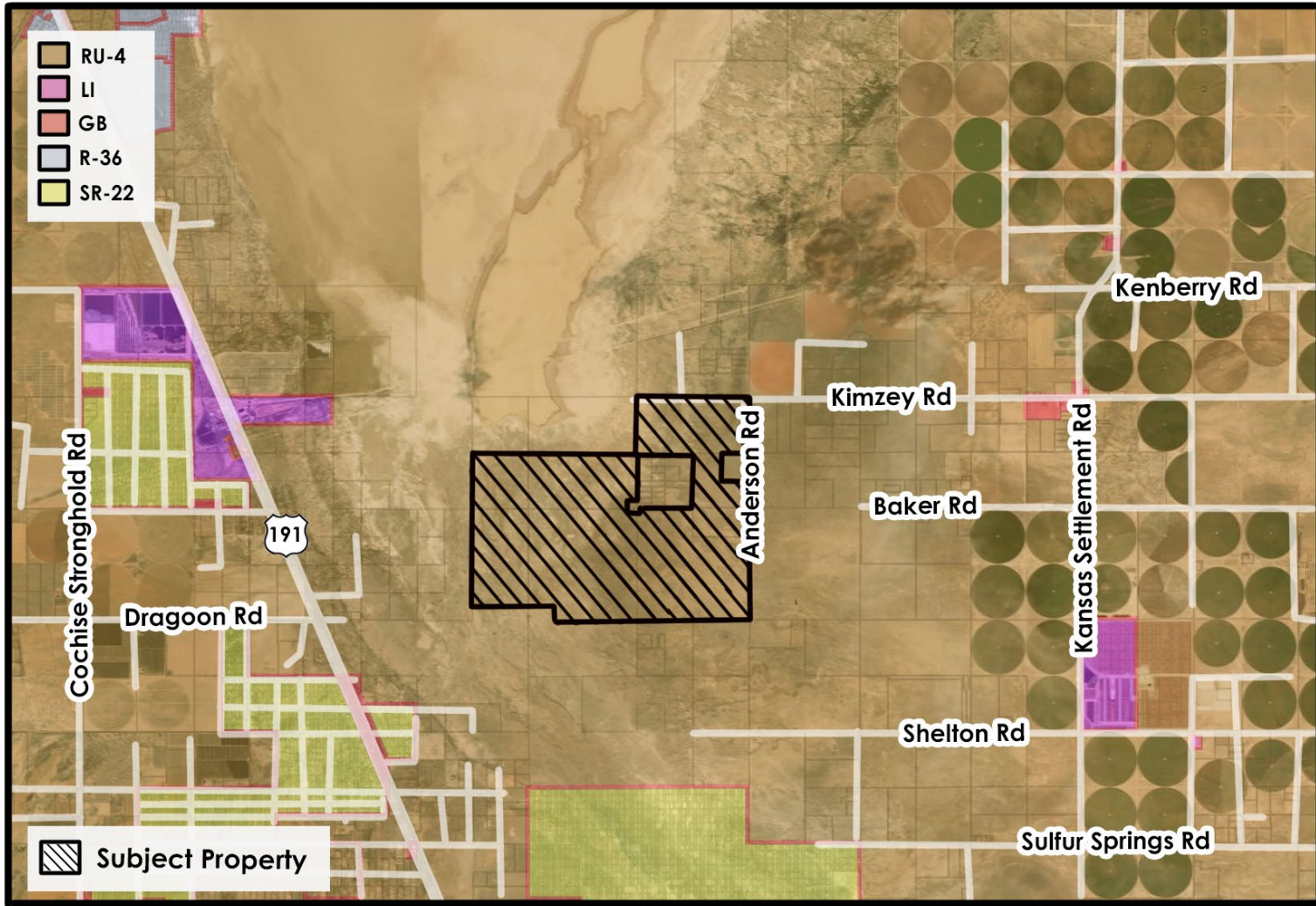


Renewable Energy Opportunity Analysis Map  
SU 23-17 (3 Sisters Solar)

N.T.S.



# DEVELOPMENT SERVICES



Zoning

/8 SU 23-17 (3 Sisters Solar)

N.T.S



# **DEVELOPMENT SERVICES**

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**There are 10 factors used to evaluate all special use proposals. As submitted, the application:**

Complies: 6 factors

- Compliance with duly Adopted Plans
- Compliance with the Zoning District Purpose
- Development along Major Streets
- Adequate Services and Infrastructure
- Significant Site Development Standards
- Public Input
- Water Conservation

Complies with Conditions: 4 factors

- Significant Site Development Standards
- Traffic Circulation
- Off site impacts
- Hazardous Materials



## Other studies submitted (attached to application):

- Citizen Review Report
- Visual Study from Key Observation Points
- Hydrology Report
- Approved Jurisdictional Request
- Traffic Statement Report

Key Observation Point (KOP) #6 west



Existing Condition



Simulated Condition

## Factors in Favor of Request

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, 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 Approving the Request

1. Project construction will likely generate fugitive dust.
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.



## Applicant Presentation/Discussion



## Staff Recommendation

Docket SU 23-17, Recommend Conditional Approval

If the Commission wishes to grant approval, staff recommends the following conditions:



## Recommended 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.

## Recommended Conditions\* (continued)

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.

## Recommended Conditions\* (continued)

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). The applicant shall not exceed a 35% ground cover ratio, defined as panel area to total project area, for the project site.
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.

## Recommended Conditions\* (continued)

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.*

