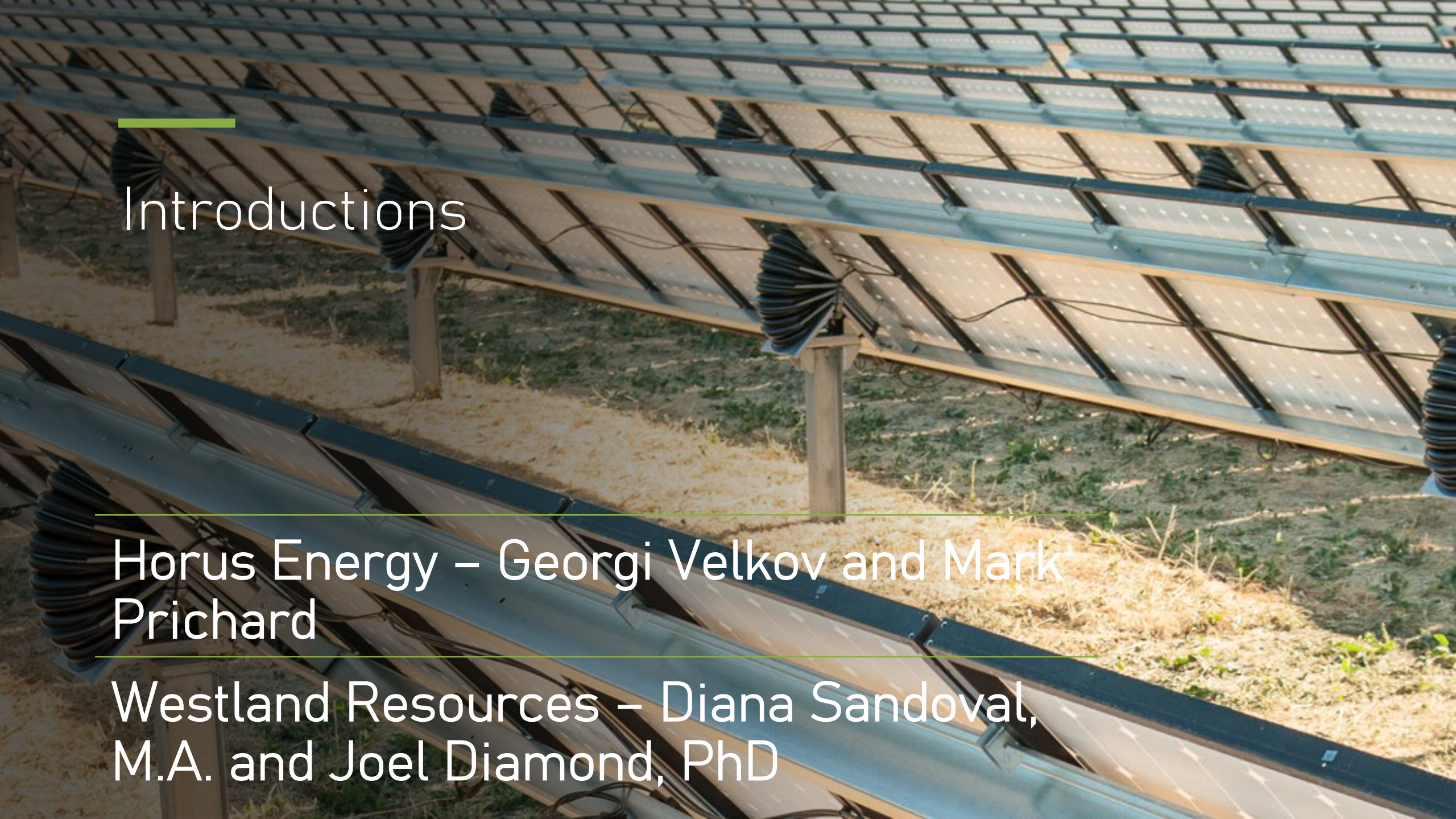
Dahlia Solar Project

HORUS ENERGY

COCHISE COUNTY PLANNING AND ZONING COMMISSION

SEPTEMBER 11, 2024



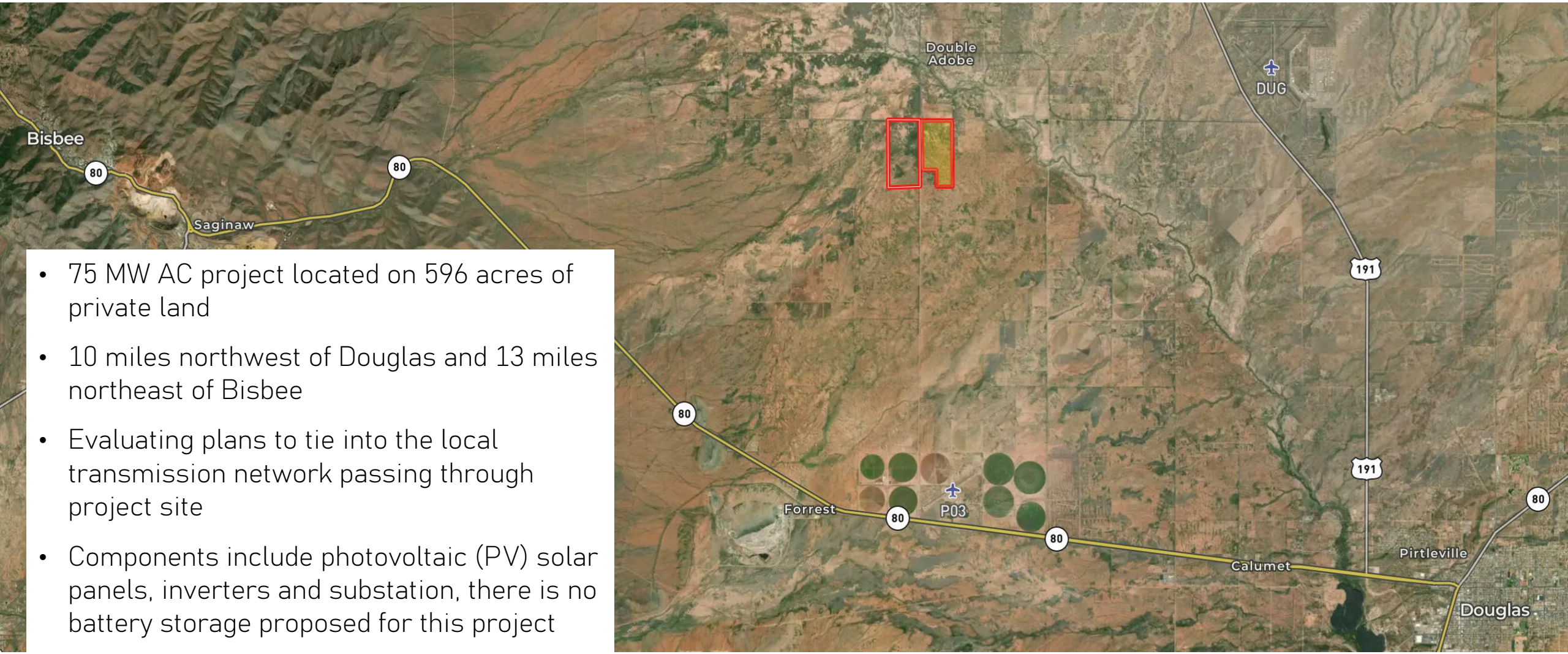
Introductions

Horus Energy – Georgi Velkov and Mark Prichard

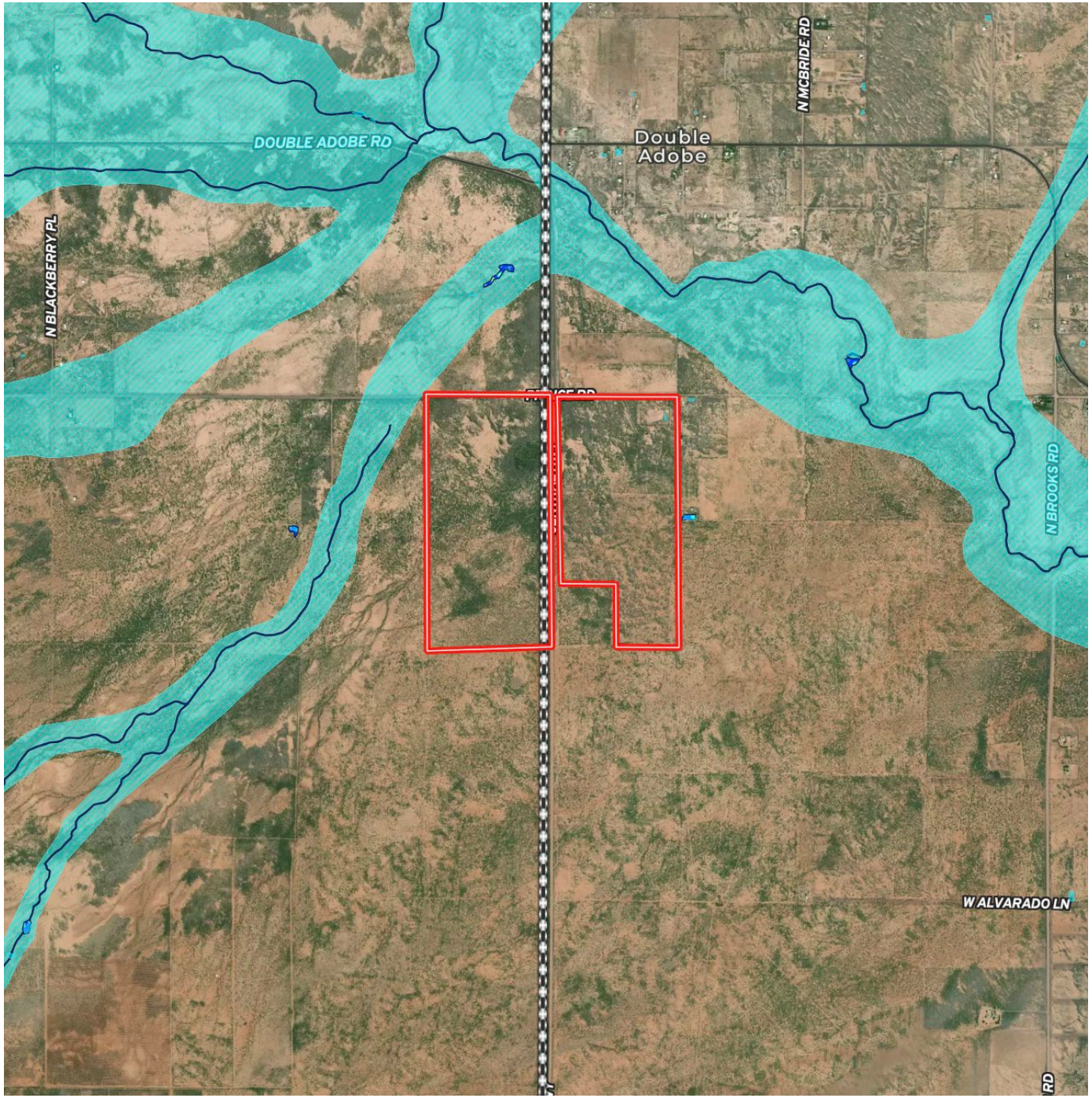
Westland Resources – Diana Sandoval, M.A. and Joel Diamond, PhD

HORUS ENERGY

Project Overview



- 75 MW AC project located on 596 acres of private land
- 10 miles northwest of Douglas and 13 miles northeast of Bisbee
- Evaluating plans to tie into the local transmission network passing through project site
- Components include photovoltaic (PV) solar panels, inverters and substation, there is no battery storage proposed for this project



HORUS ENERGY

Key Site Selection Conditions

- Existing transmission lines with available capacity
- Suitable site topography
- Uncontaminated, available private land
- Avoidance of critical wildlife habitat, floodplains and natural resources
- Ability to include a wildlife corridor and additional setback for neighbors
- Existing road access limiting need to disturb additional land and develop new roadways

HORUS ENERGY

Public Engagement

- Newsletter about the project and open house invitation mailed to neighbors and stakeholders on March 5, 2024 in Spanish and English
- Open house held on March 21, 2024 for project's neighbors and attended by representatives from numerous organizations
- Project website is available with FAQs, contact information
- Responses to agency and public comments

Project Benefits

HORUS ENERGY

- Tax revenue to the County
- Clean, renewable, local energy that promotes energy independence for the County
- Solar energy uses much less water than natural gas and coal units to generate electricity
- Solar energy production curve is aligned with power demand curve
- Support for local businesses (using local supplier for construction and money spent in the County during construction and operation)
- Job creation through construction and operation

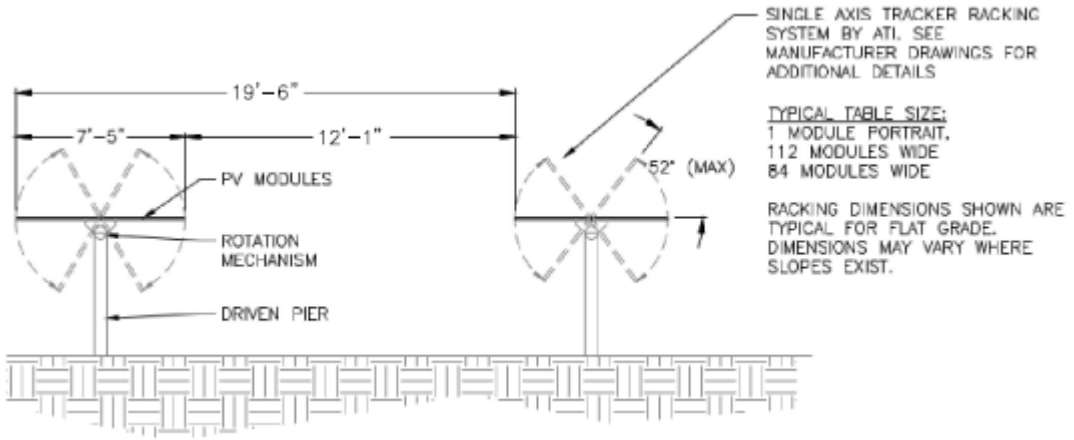
Health and Safety Impacts of Photovoltaics

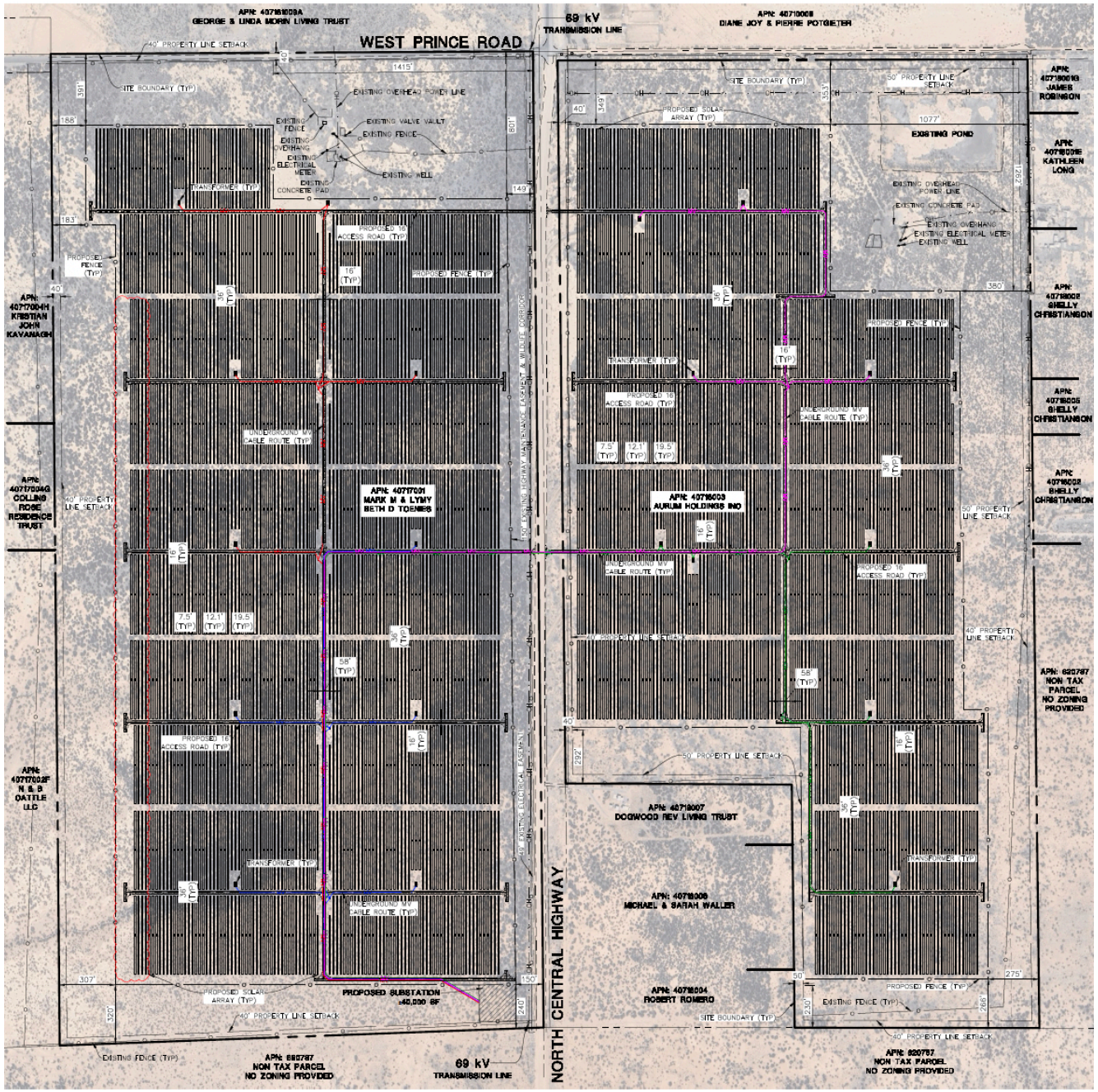
- It is natural for neighbors near solar developments to be concerned about health and safety impacts. We'd like to address unnecessary fears:
  - Solar PV technology does not result in emissions or contamination to the air, water, or soil. Concerns of public health and safety are evaluated in a study completed by N.C. State University (2017). In this published study, the negative health and safety impacts of utility scale PV development were shown to be negligible.
  - Solar PV panels typically consist of glass, polymer, aluminum, copper, and semiconductor materials that can be recovered and recycled at the end of their useful life.
  - The Project will use crystalline silicone panels. Crystalline silicon panels represent approximately 90% of solar panels in use and research has shown they "do not pose a material risk or toxicity to public health and safety."
  - Cochise County requires a Decommissioning Plan to be submitted prior to a building permit application for new Solar Energy Power Plants and it requires financial assurances. The costs are updated by a licensed professional engineer and updated at no more than five-year intervals by the owner/operator adjusted for inflation.

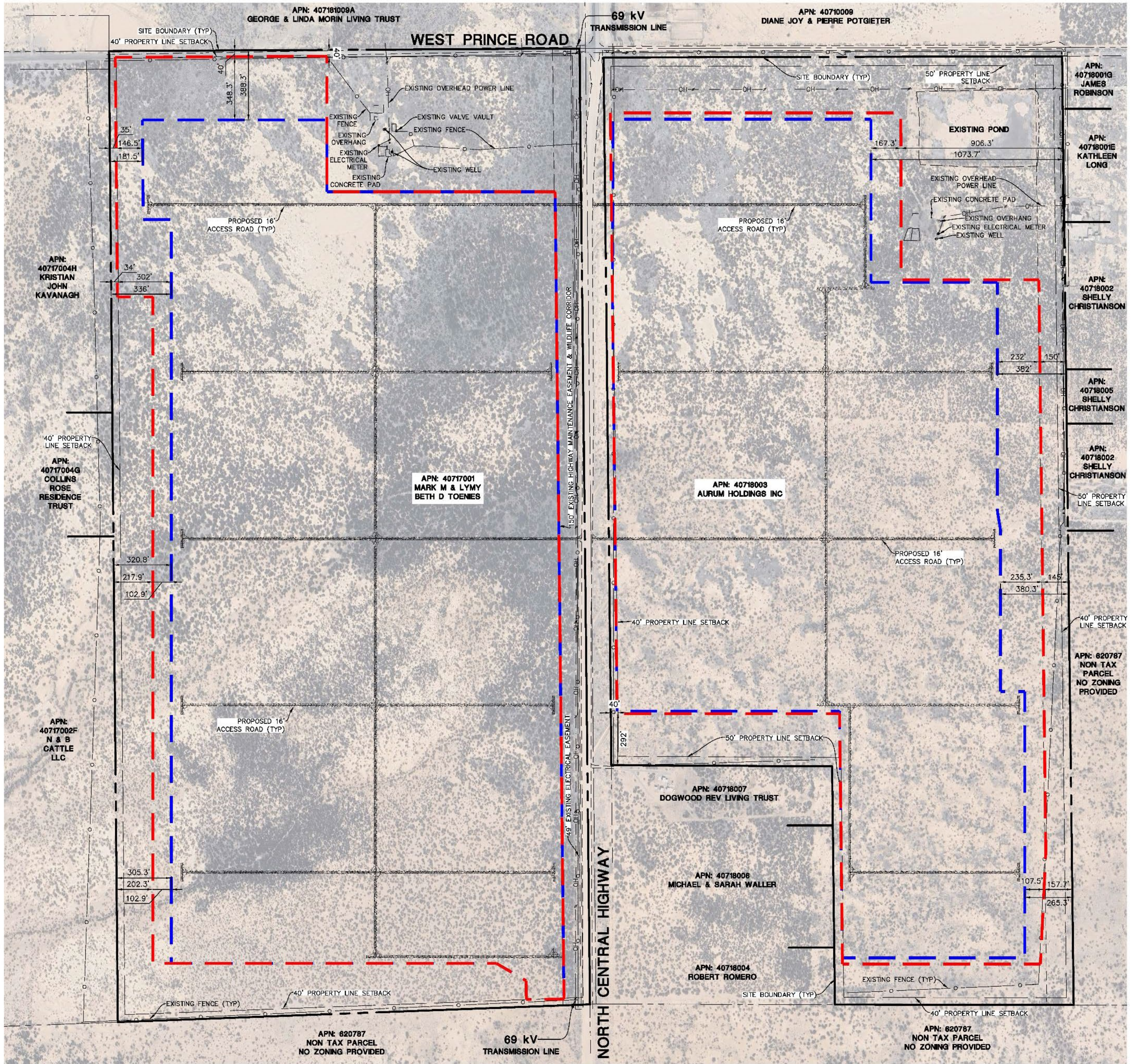
HORUS ENERGY

Preliminary Project Design

- There will be circa 225 acres of panels on total of 596 acres of land. Approximately 400 acres will be fenced.
- The ground coverage ratio for the arrays is approximately 38% with distance from edge to edge between panels at 12 feet 1 inch (AGFD recommended 12ft+)
- The distance from the panels to nearest residence is approximately 400 feet, most are further
- Compliance with all development standards (no modifications requested)







LINETYPE LEGEND:

PREVIOUS PROJECT LIMITS

NEW PROJECT LIMITS

SITE BOUNDARY

SCALE: 1"=300'

Manhard CONSULTING

1 East Wacker Drive, Suite 2700, Chicago, IL 60601

Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers

Construction Managers • Environmental Scientists • Landscape Architects • Planners

HORUS DAHLIA SOLAR

COCHISE COUNTY, ARIZONA

PROJECT LIMITS EXHIBIT

PROJ. MGR.: KJC

PROJ. ASSOC.: MSP

DRAWN BY: OMT

DATE: 8/20/2024

HORUS ENERGY

Wildlife and Habitat Preservation

Dahlia Solar Project will incorporate:

- Panel anti-reflective glare technology and rack spacing
- Large wildlife corridors/open space preservation providing additional setbacks and vegetative buffer where natural vegetation is present allowing large animals to travel around the site
- Wildlife-friendly fencing developed in coordination with AGFD that allows small wildlife to travel though the site
- Preservation of ephemeral ponding areas where wildlife may already utilize water sources within the project boundary
- Implement pre-construction bird/small mammal surveys and commitment to exclusion areas if nesting birds are detected
- Trench inspection and escape ramps for small animals during construction
- Increase native plant biodiversity through the long-term land management

HORUS ENERGY

Finding out more information

www.dahliasolar.com

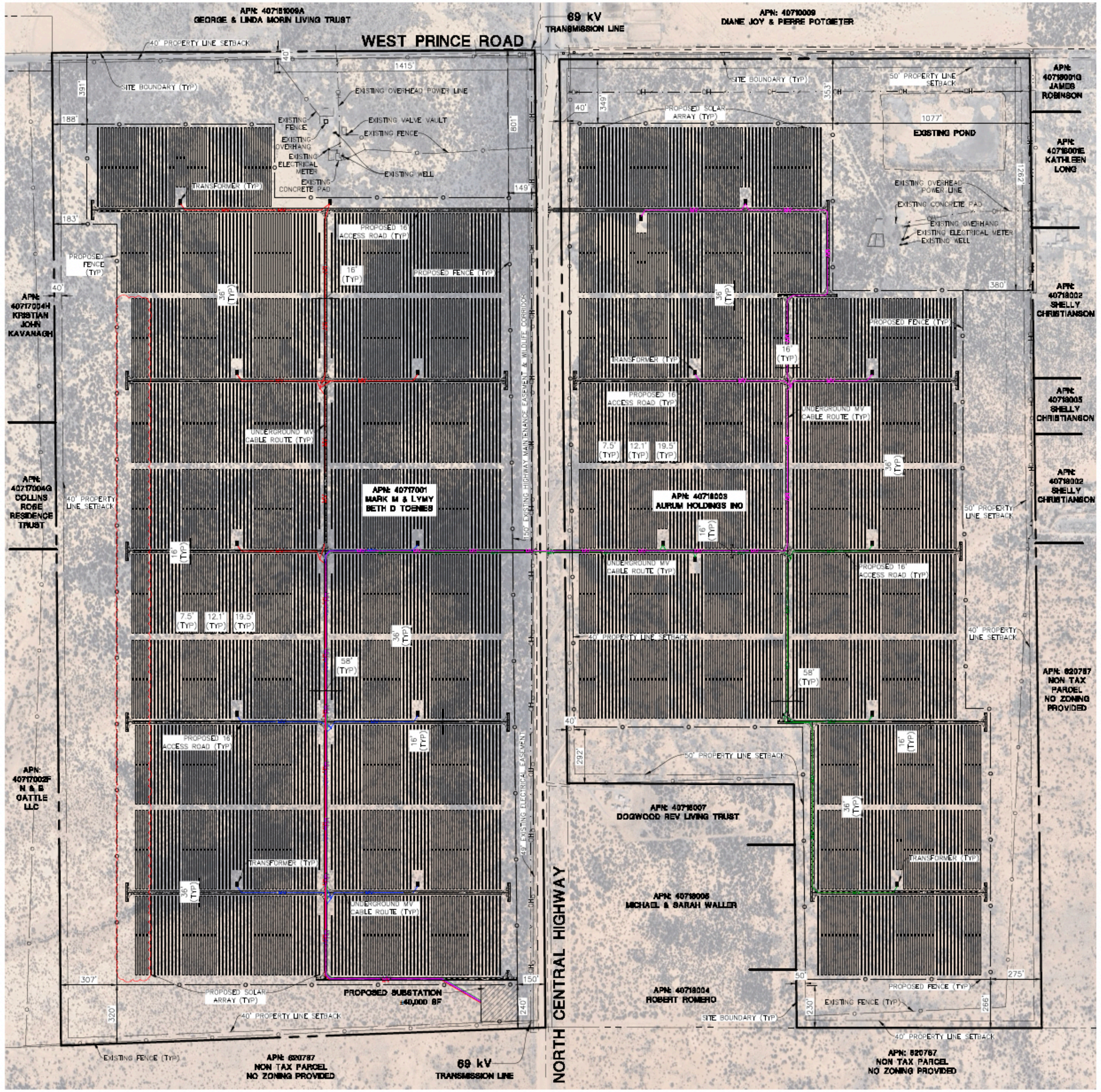
Contact Us At:

Georgi Velkov

georgi.velkov@horuscapital.co.uk

Diana Sandoval

dsandoval@westlandresources.com



N

SCALE: 1"=300'

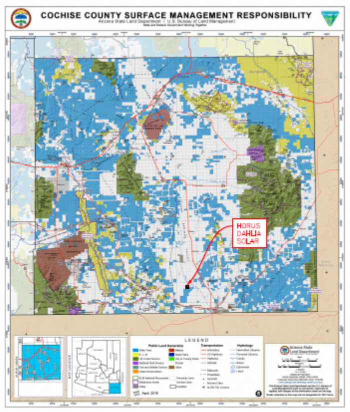
LINETYPE LEGEND:

PROPOSED FENCE		MV FEEDER 100	
16' ACCESS ROAD		MV FEEDER 200	
SITE BOUNDARY		MV FEEDER 300	
		MV FEEDER 400	

GENERAL NOTES:

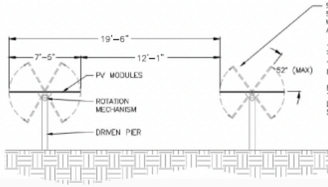
1. PROPERTY LINE BOUNDARIES WERE TAKEN FROM ALTA/NSPS LAND TITLE SURVEY OF HORUS DAHLIA SOLAR PREPARED BY BLEW INC. DATED: 02/12/2024.
2. THIS PROJECT CONSISTS OF THE DESIGN AND INSTALLATION OF A 83 MWAC (NAMEPLATE), 75 MWAC (POI) SOLAR PHOTOVOLTAIC SYSTEM. BIFACIAL PV MODULES 1 IN PORTRAIT ARE TO BE MOUNTED ON SINGLE AXIS TRACKERS, WHICH FOLLOW FROM EAST TO WEST THROUGHOUT THE DAY. INTERCONNECTION TO BE COORDINATED WITH LOCAL UTILITY.
3. PER FEMA FLOOD MAP 04003C2575F DATED 08/28/2008, SUBJECT PROPERTY IS NOT LOCATED IN A FLOOD HAZARD ZONE.
4. PROPOSED ACCESS POINTS AND ROAD IMPROVEMENTS ARE TO BE COORDINATED WITH HIGHWAY AUTHORITY.
5. THE PROJECT WILL COMPLY WITH ALL ZONING AND COCHISE COUNTY REQUIREMENTS.
6. LOCATIONS OF ALL PROPOSED FACILITIES ARE SUBJECT TO CHANGE DUE TO PERMITTING CONSTRAINTS, SITE CONDITIONS, EQUIPMENT SPECIFICATIONS AND UTILITY COORDINATION.

VICINITY MAP



PROJECT SITE DETAILS	
LATITUDE	31.442248
LONGITUDE	−109.692282
INTERCONNECTION VOLTAGE	34.5 kV AC
PROJECT AREA	596.595 ACRES
PARCEL ID'S	40717001, 40718003
OWNER	HORUS CAPITAL
EXISTING ZONING	RU−4 (RURAL ZONING)
EXISTING USE	N/A
PROPOSED USE	SOLAR PV GENERATION
FENCED AREA	±401.4 ACRES
FENCE LENGTH	±28,438 LF
16' ACCESS ROAD	±29,423 LF

PROJECT SITE DETAILS	
AC SIZE− POI LIMIT (MWAC)	75.00
AC SIZE− NAMEPLATE (MWAC)	83.60
OVERBUILD %	111.47%
DC SIZE (MWDC)	105.49
AC POI VOLTAGE (kV)	34.5
DC VOLTAGE (VDC)	1500
AVERAGE DC/AC RATIO (NAMEPLATE)	1.26
AVERAGE DC/AC RATIO (POI LIMIT)	1.41
INVERTER OUTPUT VOLTAGE (V)	645 (INV) / 34.5k (XFMR)
(QTY) INVERTERS	(19) SUNGROW SG4400UD−MV−US
(QTY) MODULES− TYPE 1	(193,564) JINKO JKM545M−72HL4−TV (545W BIFACIAL)
MODULES PER STRING	28
(TOTAL QTY) STRINGS	6,913
(QTY) 4−STR TABLE	1,636
(QTY) 3−STR TABLE	123
RACKING	ATI DURATRACK HZ (1P TRACKER)
AZIMUTH (DEG)	180
PITCH (FT/M)	19.52/5.95
MODULE ORIENTATION	PORTRAIT (1P)
RACKING ROTATION (DEG)	± 52
GROUND COVER RATIO	38.00%
NEC YEAR	2020
SITE DESIGN PARAMETERS	
ASHRAE WEATHER STATION	BISBEE DOUGLAS INTL, AZ, USA (WMO: 722720)
MAX TEMPERATURE (°C)	35
MIN TEMPERATURE (°C)	−9.9



SINGLE AXIS TRACKER RACKING SYSTEM BY ATI. SEE MANUFACTURER DRAWINGS FOR ADDITIONAL DETAILS

TYPICAL TABLE SIZE:
1 MODULE PORTRAIT,
112 MODULES WIDE
84 MODULES WIDE

RACKING DIMENSIONS SHOWN ARE TYPICAL FOR FLAT GRADE. DIMENSIONS MAY VARY WHERE SLOPES EXIST.

(2) RACKING DETAIL
SCALE: NONE

PUREPOWER ENGINEERING
ELECTRICAL ENGINEER - PURE POWER ENGINEERING

Manhard CONSULTING

HORUS DAHLIA SOLAR
COCHISE COUNTY, ARIZONA
CONCEPT SITE PLAN

PROJ. MGR.: KJC
PROJ. ASSOC.: MSP
DRAWN BY: SB
DATE: 8/20/2024
SCALE: 1"=300'

SHEET
EXH
HOR.CCAZ01