

Environmental Assessment

**Lone Butte Solar Project
Gila River Indian Community,
Maricopa County, Arizona**



**U.S. Department of Agriculture
Rural Utilities Service (RUS)**

Prepared by:

SWCA Environmental Consultants

Prepared for:

Lone Butte Solar LLC

LONE BUTTE SOLAR PROJECT ENVIRONMENTAL ASSESSMENT

Prepared for

**U.S. Department of Agriculture
Rural Utilities Service**
1400 Independence Avenue SW
Washington, D.C. 20250

Applicant

Lone Butte Solar LLC
800 W. Main Street, Suite 900
Boise, Idaho 83702

Prepared by

SWCA Environmental Consultants
20 East Thomas Road, Suite 1700
Phoenix, Arizona 85012
(602) 274-3831
www.swca.com

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ACRONYMS AND ABBREVIATIONS

AADT	annual average daily traffic
AC	alternating current
ADA	Arizona Department of Agriculture
ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
AGFD	Arizona Game and Fish Department
AMA	Active Management Area
amsl	above mean sea level
APE	area of potential effects
APS	Arizona Public Service
BESS	battery energy storage system
BLM	Bureau of Land Management
BMP	best management practice
CAP	Central Arizona Project
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
Clēnera	Clēnera LLC
CRMP	Cultural Resource Management Program
CWA	Clean Water Act
dBA	A-weighted decibel(s)
DC	direct current
EA	environmental assessment
EIS	environmental impact statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
EXPN	non-essential experimental populations
FEMA	Federal Emergency Management Agency
FONSI	finding of no significant impact
GHG	greenhouse gas

GRIC	Gila River Indian Community
GRICUA	Gila River Indian Community Utility Authority
KOP	key observation point
kV	kilovolt(s)
Ldn	outdoor day-night average sound levels
LUAR	Land Use Action Review
LUPZ	Land Use Planning and Zoning
MCDOT	Maricopa County Department of Transportation
mph	miles per hour
MW	megawatt(s)
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NERC	North American Electric Reliability Corporation
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act of 1966
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O&M	operation and maintenance
OHWM	ordinary high-water mark
PM _{2.5}	particulate matter smaller than 2.5 microns in diameter
PM ₁₀	particulate matter smaller than 10 microns in diameter
project	Lone Butte Solar Project
PV	photovoltaic
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RUS	Rural Utilities Service
SCADA	supervisory control and data acquisition
SCIP	San Carlos Irrigation Project
SR	State Route
SWCA	SWCA Environmental Consultants
SWPPP	stormwater pollution prevention plan
SWReGAP	Southwest Regional Gap Analysis Project
TCP	Traditional Cultural Place
TNW	traditional navigable water

USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WAPA	Western Area Power Administration
WOTUS	waters of the U.S.

1. PURPOSE AND NEED FOR THE PROJECT

1.1. Introduction and Project Description

Lone Butte Solar, LLC (Lone Butte Solar) plans to submit a loan application to the U.S. Department of Agriculture (USDA) Rural Development’s Rural Utilities Service (RUS) to secure a direct loan to own and operate a solar photovoltaic (PV) project in Arizona. The Lone Butte Solar Project (Proposed Action or project) would be a 50-megawatt (MW) solar PV generating facility interconnecting to the existing Lone Butte Substation on Gila River Indian Community (Community or GRIC) land. A 50-MW battery energy storage system (BESS) may be constructed in the future if it is determined to be necessary based on future needs, and is included in this Environmental Assessment (EA) for analysis. The proposed facility would cover approximately 355 acres of tribal trust land in portions of District 4 and District 6 in Maricopa County, Arizona. The project is located approximately 1 mile south of the proposed Wild Horse Pass Development, in Section 24, Township 2 South, Range 3 East, and Sections 19 and 30, Township 2 South, Range 4 East at an approximate location of 33.244729, -111.995813 (Figure 1). The project would consist of solar PV arrays and the following components: perimeter fencing, a BESS (if needed), a project substation, collector lines and inverters, a step-up transformer, an overhead transmission line (i.e., generation-tie line or gen-tie), and access roads. The purpose of the overhead transmission line is to interconnect the solar energy facility to the central Arizona transmission grid at the proposed point of interconnection at the Lone Butte Substation (Figure 2). The solar project is expected to operate for 35 years.

On behalf of Lone Butte Solar, SWCA Environmental Consultants (SWCA) prepared this environmental assessment (EA) to support RUS’s National Environmental Policy Act of 1969 (NEPA) review of the Lone Butte Solar Project. The purpose of this EA is to analyze and disclose the potential direct, indirect, and cumulative effects of building and operating the project. The analysis in this EA has taken place in accordance with NEPA (42 United States Code [USC] 4321 et seq.) and its implementing regulations (40 Code of Federal Regulations [CFR] 1500–1508) as well as Rural Development’s NEPA guidance, particularly *RD Instruction 1970-Subpart C* (USDA 1970a). This document provides guidance to the RUS decision-maker regarding any significant project effects to consider in determining whether the project requires preparation of an environmental impact statement (EIS) or a finding of no significant impact (FONSI). If RUS determines that this project would have “significant” impacts, as defined by 40 CFR 1508.27, then an EIS would be prepared. If not, a FONSI would be prepared for the project.

Chapter 1 of this EA discusses the purpose of and need for the project (i.e., the Proposed Action); applicable laws, regulations, and plans; and the agency decision to be made. Chapter 2 discusses the Proposed Action in detail, as well as any alternatives to the Proposed Action and the alternatives development and evaluation process. Chapter 3 discusses the affected environment and analyzes the potential environmental effects that the Proposed Action and alternatives would have on the affected environment. Chapter 4 discusses the potential cumulative effects that the Proposed Action and alternatives would have on the affected environment, along with the effects of past, present, and reasonably foreseeable future actions. Chapter 5 summarizes all avoidance, minimization, and mitigation measures proposed for the Proposed Action and alternatives. Chapter 6 discusses the agency and tribal consultations that took place during development of this EA.

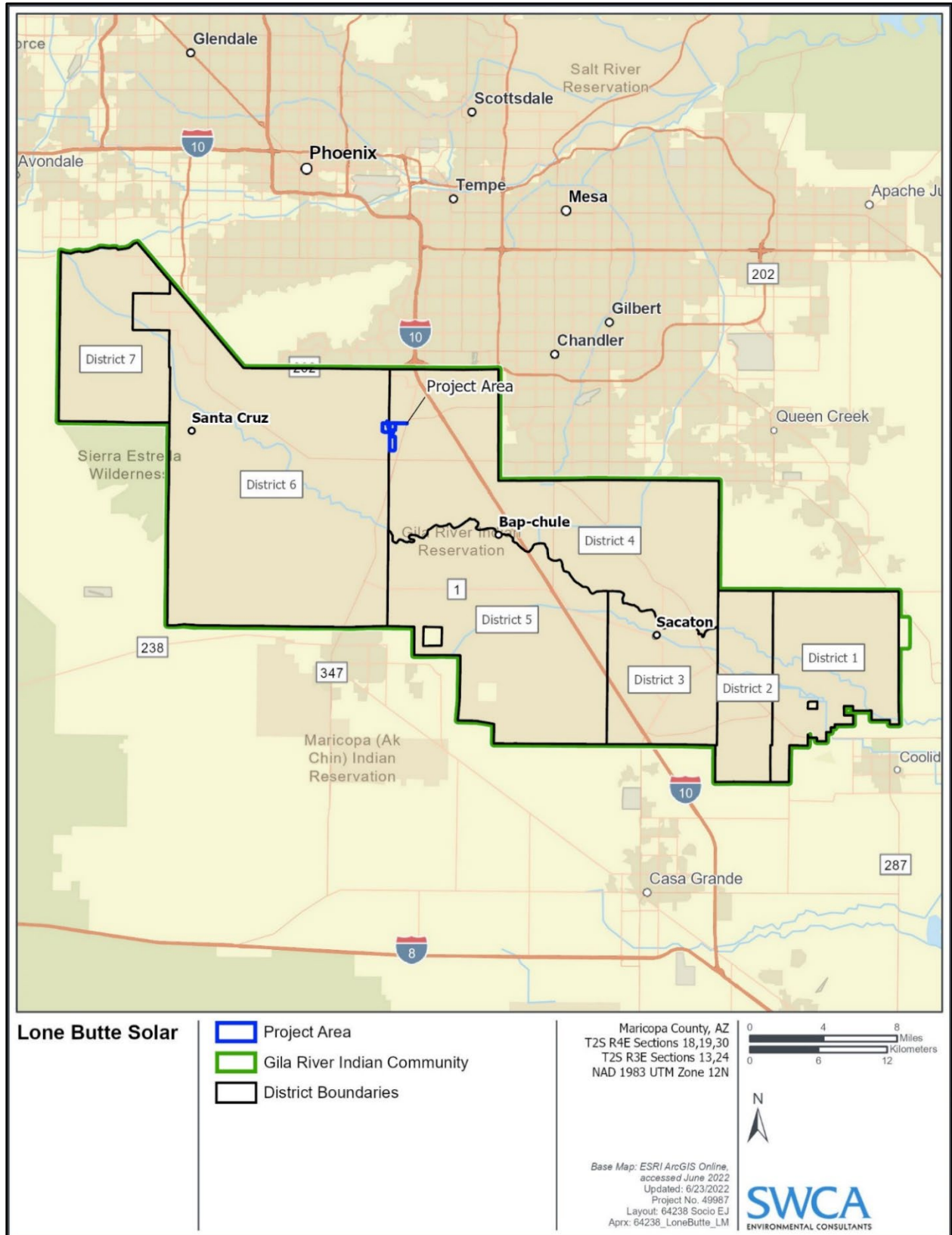


Figure 1. Proposed Lone Butte Solar Project location.

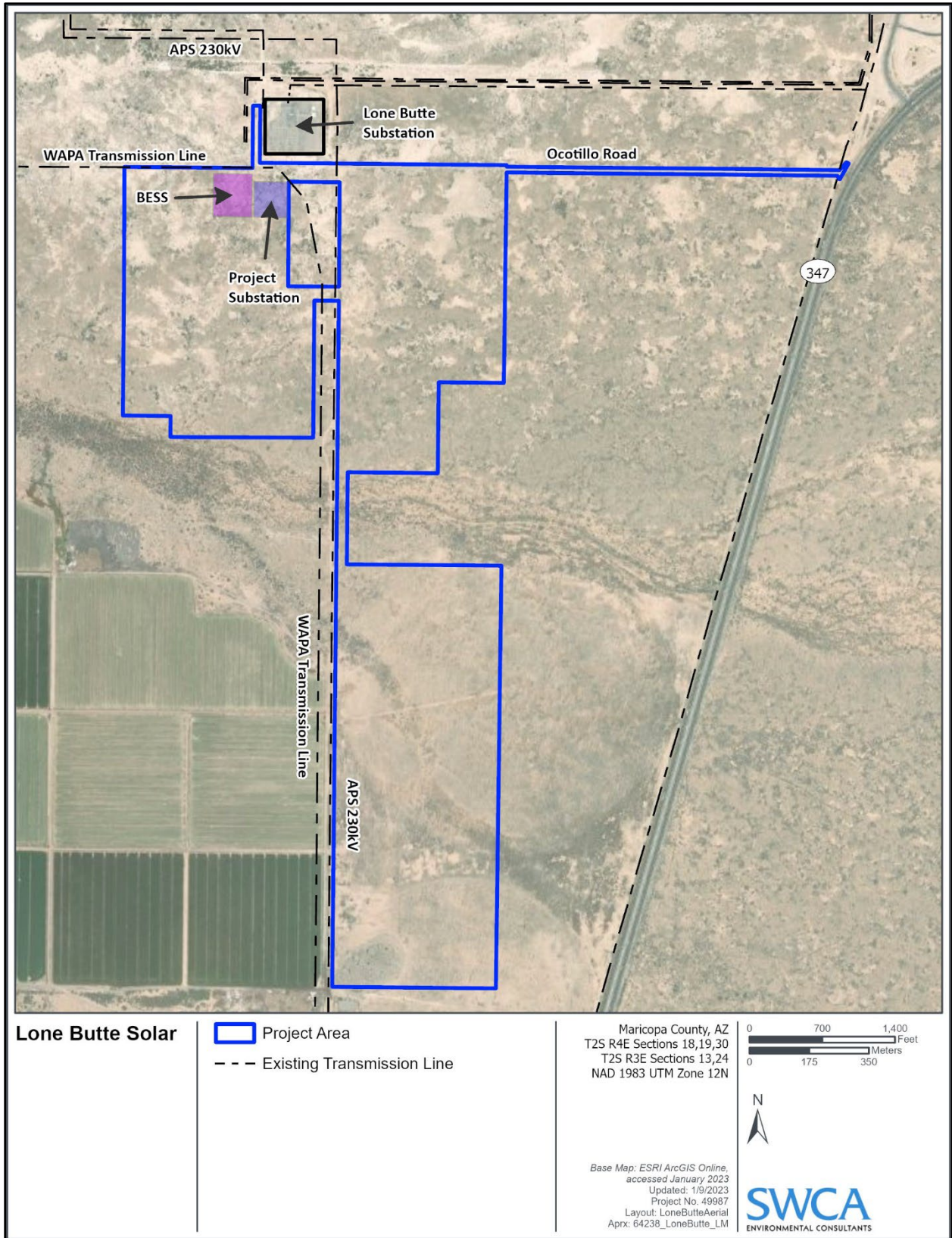


Figure 2. Proposed Lone Butte Solar Project conceptual design.

1.2. Purpose and Need

The purpose of this project is to generate solar energy, support grid reliability, encourage future renewable-energy interest and investments, and reduce greenhouse gas emissions across the Community and Maricopa County. Lone Butte Solar is in the process of being sold to the Gila River Indian Community Utility Authority (GRICUA), who will retain ownership and operation of the project to serve the Community's energy needs.

USDA, Rural Development is a mission area that includes three federal agencies: Rural Business-Cooperative Service, Rural Housing Service, and Rural Utilities Service. The agencies have in excess of 50 programs that provide financial assistance and a variety of technical and educational assistance to eligible rural and tribal populations, eligible communities, individuals, cooperatives, and other entities with a goal of improving the quality of life, sustainability, infrastructure, economic opportunity, development, and security in rural America. Financial assistance can include direct loans, guaranteed loans, and grants in order to accomplish program objectives. Lone Butte Solar is seeking federal financial assistance for the project from RUS under the Rural Energy for America Renewable Energy Systems program. The objective of this program is to help increase American energy independence by increasing the private sector supply of renewable energy and decreasing the demand for energy through energy diversity and efficiency improvements, which, over time, would help lower the cost of energy for small businesses and agricultural producers.

The proposed federal action is RUS's decision whether to provide financial assistance to Lone Butte Solar for the Proposed Action. Pursuant to NEPA and Rural Development policy and procedures (7 CFR 1970), this EA has been prepared to evaluate the environmental impacts of the construction and operation of the project for RUS review.

1.3. Applicable Environmental Laws, Statutes, and Regulations

This EA was prepared following RUS's NEPA guidance documents, including *RD Instruction 1970-Subpart C* (USDA 1970a). The following list includes the laws, statutes, and regulations that were of particular relevance in creating this document:

- Migratory Bird Treaty Act of 1918 (16 USC 703)
- National Historic Preservation Act of 1966 (NHPA) (54 USC 300101 et seq).
- NEPA (42 USC 4321 et seq.)
- Archeological and Historic Preservation Act of 1974 (54 USC 312501 et seq).
- Clean Air Act of 1977 (33 USC 1251 et seq.)
- Clean Water Act (CWA) of 1977 (33 USC 1251 et seq.)
- Archaeological Resources Protection Act of 1979 (16 USC 470)
- Endangered Species Act (ESA) of 1973 (16 USC 1531)
- Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001–3013)
- American Indian Religious Freedom Act of 1996 (42 USC 1996)
- Farmland Protection Policy Act (7 USC 4201 et seq).

1.4. Agency Decision to be Made

This EA does not contain the final decision regarding the Proposed Action and no action alternatives; the FONSI, if prepared, will contain the final decision. The primary purpose of this EA is to analyze and disclose potential effects of the Project on the natural and human environments. The EA is intended to inform decision-makers and the public of the reasonable alternatives that would avoid or minimize adverse effects on or enhance the quality of the natural or human environments. RUS will make the decision whether to approve funding for the operation and maintenance (O&M) of the Proposed Action.

2. PROJECT ALTERNATIVES

2.1. Alternatives Development and Evaluation Process

In 2017, the GRIC Economic Standing Committee initiated an evaluation process for solar energy development within the Community. The GRICUA was asked to explore solar options in an effort to increase Community sustainability, increase Community income and employment opportunities, support Community development, and develop renewable energy infrastructure within the Community. The initial evaluation area for solar energy development consisted of approximately 360 acres in District 4 and 640 acres in District 6, located south and west of the Lone Butte Substation, respectively. This area was evaluated because it contains existing electrical transmission infrastructure (namely, the Lone Butte Substation), access to transportation infrastructure (state highways), is in proximity to the GRICUA headquarters and Wild Horse Pass Development, and is located entirely within the Community. The area evaluated includes the 355-acre project area described below under the Proposed Action.

The Proposed Action meets the purpose and need for the project. No alternatives other than the Proposed Action were considered for further analysis due to the 355-acre project area described under the Proposed Action being the tribal trust land available from the Community for lease and solar energy development and because of the limited resource impacts anticipated to occur by the Proposed Action.

2.2. Alternatives Considered but Eliminated from Detailed Analysis

No alternatives to the Proposed Action were considered. The initial evaluation area proposed by the GRIC Economic Standing Committee consisted of the tribal trust land available from the Community for lease and solar energy development. The evaluation area brought forward by the GRIC Economic Standing Committee was the sole option available for solar energy development based on their review of available tribal trust land, anticipated absence of resource issues, and existing access and proximity to Community infrastructure, such as the Lone Butte Substation, the Community's GRICUA offices, and Wild Horse Pass facilities, as well as electrical transmission and transportation corridors. Therefore, no alternatives to the Proposed Action were carried forward for detailed analysis.

2.3. No Action Alternative

Under the no action alternative, RUS would not provide financial assistance to Lone Butte Solar and the company would not construct the Proposed Action. Renewable energy would not be sourced from the project area to help meet increasing demand for electricity and reduce the need for fossil fuels.

2.4. Proposed Action Alternative

Under the Proposed Action alternative, RUS would approve Lone Butte Solar’s funding request and the company would construct a 50-megawatt (MW) solar photovoltaic (PV) generating facility on tribal trust land in portions of District 4 and District 6 of the Gila River Indian Community in Maricopa County, Arizona (see Figure 1). It is anticipated that the GRICUA would retain ownership and operate the facility. A 50-MW battery energy storage system (BESS) may be constructed in the future if it is determined to be necessary based on future needs, and is included in this EA for analysis. The project location was selected because of the site’s proximity to GRICUA’s Lone Butte Substation, which is located just north of the Proposed Action area and has the capacity to receive power generated by the project, and also due to the suitable topography of the area, proximity to Community load centers, Arizona Public Service (APS) and Western Area Power Administration (WAPA) transmission lines, GRICUA’s offices, major transportation corridors, and Community support. The Community has an interest in sustainability and renewable energy, and the GRIC Economic Standing Committee asked GRICUA to explore options for development of a solar project. Clēnera, LLC (Clēnera) won a GRIC competitive Request for Proposal (RFP) in 2018 to lease the project area with the intent to develop a solar power plant.

Resource surveys (biological, cultural, and surface water surveys) were completed in mid-2021 to identify site constraints. Preliminary engineering, surveying, and site assessments would also be performed to determine the exact location of structures. Topographic profiles would determine specific solar panel and transmission line structure design and location. Additional engineering, surveying, and site assessments would occur prior to construction as the design process evolves. Project engineering would use micro-siting of project components to avoid ephemeral drainages and isolated wetlands to the extent possible. Lone Butte Solar would avoid placement of structures in water resources, including ephemeral drainages, and minimize effects on such waters by applying setbacks (200 feet), using existing natural drainage channels on-site, and including adequate natural buffers for flood control to the maximum extent practicable. Lone Butte Solar would minimize as much as practicable the number of road crossings over water resources, as well as design necessary crossings to provide adequate flow-through during storm events and avoid complete clearing and grading of the site by evaluating the mounting of PV panels at sufficient height above ground to maintain natural vegetation and reduce impacts to drainages.

2.4.1. Facility

Project construction is expected to start in January 2025, and the project is expected to begin commercial operation on December 1, 2025. The facility would have a maximum footprint of 355 acres on tribal trust land. Figure 2 shows the preliminary design of the facility. The project would consist of up to three major components: a solar PV system and collection system, a BESS (if needed), and transmission interconnection facilities (a project substation and gen-tie that interconnects into the existing Lone Butte Substation). The BESS is not currently proposed but would be constructed after completion of the solar facility if it is determined to be necessary. The project also includes use of existing access roads and construction of new access roads within the project area. The project components are explained in detail below.

The project would use solar PV panels, referred to as “modules” to generate electricity. Solar PV technology uses the sun’s light energy and converts it into direct current (DC) electrical energy within the PV modules. The modules can be mounted together in different configurations, depending on the equipment selected, on a common support framework. The modules would be dark blue or black in color with raw aluminum frames and are inherently designed to absorb light, thus limiting glare and light reflection. The modules are grouped together in solar arrays, and the size of each array is based on the capacity of the equipment selected in order to generate the desired overall voltage and current output.

The overall capacity of the Lone Butte Solar project design (50-MW alternating current [AC]) is achieved with sufficient DC constructed arrays to deliver 50 MW AC at the point of interconnection.

The modules would be mounted in arrays on single-axis trackers, which rotate along a north-south axis to track the sun's movement. The arrays would generally be arranged in a linear pattern as allowed by topography and other environmental constraints. Rows of solar modules would be spaced approximately 20 feet apart. The trackers would be powered by motors and directed by an actuator that responds to the sun's direction. The structures supporting the modules would consist of steel piles (e.g., cylindrical pipes, H-beams, or equivalent). The modules would be mounted on a galvanized steel and/or aluminum rack system with a height of up to 15 feet. The racking system foundation would consist of metal posts (pilings) pile-driven into the ground to a depth to be determined based on the results of geotechnical studies. The solar panel model would be chosen closer to construction. All required equipment would be manufactured off-site and delivered to the site for final assembly and installation. Access to all areas within the solar PV facility would be provided by 20-foot-wide access aisles. These aisles are not roads, but rather undeveloped spaces between the individual rows of solar arrays that allow for pedestrian and vehicle access to all areas of the site for maintenance and emergency response.

The modules would be connected by an aboveground DC collection network to the power conversion system (PCS or inverter) that converts the electricity from DC to AC. AC output from individual inverters would be connected to a medium-voltage transformer via aboveground or trenched medium-voltage cables. The medium-voltage transformers would be connected to the project substation with 34.5-kilovolt (kV) collection cables. The BESS (if constructed) energy would also pass through separate 34.5-kV collection lines that connect to the project substation.

The project substation would be located on approximately 3 acres within the project area, south of the Lone Butte Substation and Ocotillo Road. The project substation would step up the voltage of the electricity from 34.5 kV to 69 kV. The substation would include a single bus system (including a main step-up power transformer, one 34.5-kV breaker and one 69-kV main breaker, and disconnect switches), and a control house. The project substation and Lone Butte Substation interconnection would be built at 69 kV and operate at that nominal voltage. All electrical systems would be designed to meet all applicable safety standards (e.g., National Electrical Code).

The project substation would interconnect into the Lone Butte Substation via an overhead 69-kV gen-tie line. The line would interconnect into the Lone Butte Substation via up to three 75- to 80-foot-tall wooden poles, and would be wholly contained within the project area, except for the point of interconnection into the substation. The point of interconnection would be within the fence line of the existing Lone Butte Substation. It is expected that the interconnection would occur on the west side of the substation; however, further coordination with GRICUA may identify an alternate route, which may alter the number and types of structures needed for interconnection. No external disturbance areas are anticipated outside of the fence line; however, vehicle and equipment staging may occur adjacent to the fence gate in a previously disturbed entrance area.

The project would include a BESS of a to-be-determined capacity, if needed. The BESS (if constructed) would occupy up to 3 acres within the project area and would be located west of the project substation, allowing the project to store energy generated from the PV system for later discharge to the electric grid. The PV system would have the ability to generate electricity for simultaneous delivery to the grid, while at the same time maintaining the ability to charge the BESS. Design of the BESS would comply with National Fire Protection Association (NFPA) 855, *Standard for the Installation of Stationary Energy Storage Systems* (NFPA 2022). Fans and/or air conditioning equipment within the battery storage units would be used to maintain the manufacturer's required temperature within the battery containers.

A permanent security fence would be installed around the perimeter of the project area, the BESS (if constructed), and the project substation, in accordance with the North American Electric Reliability Corporation (NERC) *Critical Infrastructure Protection Physical Security Guidelines* (NERC 2022). The security fences would be 8-foot-tall chain-link metal security fence enclosures with three strands of outward-facing barbed wire on top. An on-site supervisory control and data acquisition monitoring system that would be managed remotely would be installed around the project area for safety and security.

Primary operations access would be via Ocotillo Road from South Maricopa Road/State Route (SR) 347. The road would be maintained by Lone Butte Solar under the terms of the San Carlos Irrigation Project (SCIP) easement between the Community and SCIP. Lone Butte Solar may improve the surface of the road with an aggregate surface and would repair any damage to the road resulting from project construction.

Within the project area, a network of 20- to 25-foot-wide internal access roads would be used for construction and maintenance of the solar facility, as well as access to the substation. All roads would consist of graded dirt covered with an aggregate surface (if required) adequate to support the size and weight of construction and maintenance vehicles as well as for dust control. Project area access roads would be located around the project's perimeter and within the solar PV arrays to allow for ongoing maintenance of the project following construction. At the central wash crossing, the access road would use up to two Arizona crossings (a paved, dish-shaped slab across the drainage that extends up each bank to contain design flood flows) up to 30 feet wide by 30 feet long, subject to final design and approval. It is anticipated that less than 0.1 acre of the wash would be permanently disturbed by the crossings. The crossings would be designed to allow surface waters to flow unimpeded over the crossing.

2.4.2. Project Construction

Construction would take approximately 11 months to complete. Construction would commence once all permits and approvals are obtained. The anticipated construction start date is January 2025, and the anticipated commercial online date is expected in December 2025.

Construction access to the project area would be via existing dirt roads (such as Ocotillo Road, Sweetwater Road, and unnamed APS and WAPA transmission line access roads) within and adjacent to the project area that provide access from major paved roads such as West Riggs Road and South Maricopa Road/SR 347 (see Figure 2). Public vehicle access along existing roads used for construction access would be maintained throughout construction. Lone Butte Solar will improve Ocotillo Road and the internal access roads during construction, if needed, for dust control and to support vehicle traffic at the Project site.

Materials would be transported to the project area via existing access roads and access roads within the project area. Materials would include concrete for foundations and several truckloads of sand and gravel for backfilling and compacting excavated areas. Additional materials transported would include the solar PV panels, array infrastructure (such as pilings, racking, solar trackers, etc.), electrical collection systems, medium-voltage transformers and associated components for the project substation, BESS components (if constructed), transmission line equipment, communication fiber-optic line and associated installation materials, and other equipment required for the project. The materials source for the project has not been identified; however, only a permitted materials source would be used.

Equipment and vehicles that would be used during construction within the project area consist of passenger vehicles, 4×4 pickup trucks, cranes, tractors, loaders, backhoes, graders, concrete truck loads, impact/vibratory pilings or drill shafts, water trucks for dust suppression, and dump trucks. The estimated number of vehicle trips needed for equipment, materials, and personnel over the approximately 11-month

construction period is provided in Table 1 and would be finalized by the selected Engineering Procurement and Construction contractor before construction commences.

Table 1. Vehicle Trips by Type during Construction

Vehicle Type	Estimated Total Trips (In/Out)	Estimated Daily Trips (In/Out)
Passenger/service truck	8,400 trips	35 trips per day
Large diesel (semi) truck*	2,640 trips	11 trips per day
Water truck	3,840 trips	16 trips per day
Total	14,880 trips	62 trips per day

* Semi-truck trips include all material deliveries and large equipment deliveries such as cranes, heavy civil equipment, etc.

The first phase of project construction would be general civil work at the project site. All activities would be confined to the project area. Site preparation activities for the construction of the project would begin with surveying and staking disturbance boundaries and clearing and grading, as necessary. The project would establish temporary areas within the project area for parking, staging, laydown, and storage to facilitate construction activities. To prepare the project for construction, the areas within the fenced boundary where the solar array, roads, and other site facilities would be located would be mowed so that the vegetation is at a height of no more than 3 inches. All other vegetation would be left intact to the extent possible.

After upgrading site access via Ocotillo Road, the contractor would also start construction of the internal road network. This work would start with the stripping of topsoil materials from the 20- to 25-foot-wide roadbeds to a depth of at least 6 inches. Topsoil would be windrowed to the edges of each roadbed. It is anticipated that the travel surfaces of the roadways would then be built up with surface gravel materials to 1 inch above the pre-existing elevations. Finally, the previously windrowed topsoil material would be respread around the new gravel material along the road shoulders.

Once site preparation and road construction are complete, work would begin with construction of fencing around the solar arrays and the roads between and around solar arrays, and installation of foundation piles for the solar PV module racking system. Prior to installation of foundation piles, the area around the posts would be cleared and the surrounding soil would be compacted and graded. The posts would then be machine driven into the ground and typically would not require concrete foundations.

Concrete foundations may be used for the BESS (if constructed), substation equipment, power conversion system, and pad-mounted transformers. The foundations would be designed for the soil conditions at the project site and the concrete would be trucked to the site from the nearest acceptable commercial concrete batching plant. For the project substation, the contractor would strip topsoil off the substation area, install pier-type foundations, compact subgrade materials, regrade spoils around the substation yard, and then install clean washed rock on the surface. After final grading and restoration, crews would reclaim the topsoil using seed mixtures and techniques developed in consultation with local codes.

The project would bury electrical switchgear AC/DC distribution system cables for each circuit in trenches or string them aboveground, underneath the solar array trackers. If an underground cable installation method is chosen, such trenches are typically 24 to 44 inches wide and 36 to 48 inches deep. In locations where two or more sets of underground lines converge, workers would install underground vaults and/or pad-mounted switch panels to tie the lines together into one or more sets of larger feeder conductors. Steel-copper ground rods would be driven into the ground at key locations and bonded to the ground grid.

Dust abatement activities throughout the approximately 11-month construction period would require approximately 80 acre-feet (roughly 26 million gallons) of water.

After construction, personnel would calibrate and test systems, controls, and safety equipment before putting them into service. Qualified technicians, mechanical and electrical experts, and electricians would test and inspect solar components, transformers, communications systems, switchgear systems, and interconnection systems to ensure that they comply with required specifications and are working properly.

2.4.3. Project Operation

O&M activities would consist of technicians visiting the site and visually inspecting the grounds, panels, transmission line poles, conductors, and other components of the solar PV and BESS system (if constructed), project substation, and transmission line, as required, and conducting any necessary repairs. The project is expected to employ dedicated O&M staff and require an estimated one vehicle trip per day over a 5-day work week for the duration of operations.

O&M activities would generally require standard tools and equipment including 4×4 pickup trucks, a boom lift, thermal infrared cameras, and electronic sensor data acquisition and measurement devices. Vegetation on the project site would be actively maintained by mowing as necessary to control growth and prevent overshadowing or shading of the solar panels, as well as to reduce fire risk. Herbicides and pesticides may be used as needed to control invasive/noxious weeds and/or pests on-site. The project substation would be equipped with floodlights for safety and security purposes at the project substation, but this lighting would only be used during nighttime, emergencies, and maintenance. The lighting would be fully shielded low-sodium or LED lighting using motion sensors.

Additional O&M for the project would include using water to wash the solar PV panels as needed. To minimize the rate of evaporation and to avoid impacts to power generation, panel washing would primarily be conducted during early morning hours or late in the day to avoid sun and/or heat hours. The project would require approximately 260,000 gallons of water over the 35-year operations of the project for panel washing based on washing the solar PV facility once every 3 years on average, using approximately 30,000 gallons per wash. It is anticipated that water from the nearest fire hydrant would be used for the washing of solar panels and dust abatement, which would require authorization from the GRIC Public Works Department.

2.4.4. Project Decommissioning

At the end of the project's useful life (35 years after the project reaches commercial operation), per the direction of the Community, the project's components may either 1) be decommissioned and dismantled, and the project site would be restored; or 2) all project improvements would become property of the Community. If the dismantling and restoration option is selected, activities associated with project decommissioning are anticipated to be completed within a 12-month time frame.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter provides descriptions of the existing environmental conditions of the areas that may be impacted by construction and operation of the Proposed Action and no action alternatives. This chapter provides an understanding of the affected environment and potential environmental consequences of the project for the following resources: land use, floodplains, wetlands, water resources, biological resources, cultural and historic resources, aesthetics, air quality, socioeconomics and environmental justice, noise,

transportation, and human health and safety. Because Arizona does not have a designated coastal zone, coastal resources are not included in this EA. Avoidance and minimization measures for individual resources are listed for each resource subsection, if applicable, and are provided in full in Chapter 5.

The baseline condition for each affected environment is described below under each resource. For the majority of resources, the analysis area is the project's disturbance footprint: 355 acres (note that for land use, cultural resources, visual resources, transportation, and socioeconomics, the analysis area expands beyond 355 acres). Construction of the project is anticipated to last 11 months and after construction, the project is expected to operate for 35 years; therefore, the temporal scale for cumulative impacts is 36 years to account for the construction and operation periods. After that time, the project would either be decommissioned, and the land reclaimed, or the project would be improved and continued to be used by the Community. Federal, state, and local regulations that apply to managing these resources are also discussed in the context of the existing environment.

3.1. Land Use

This section provides a discussion of current and future land use, important farmland, and formally classified lands, including managed conservation lands, within the project area. The analysis area for land use is considered Districts 4 and 6 of the Community. The land use analysis is based on publicly available state, regional, county, and municipal-level planning documents, as well as USDA soils data.

3.1.1. General Land Use

3.1.1.1. AFFECTED ENVIRONMENT

3.1.1.1.1. Existing Land Use and Zoning

General land use within the project area consists of natural landscapes (i.e., vacant land) and fallow agricultural fields. Other than natural landscapes, land uses in the project area include APS and WAPA transmission line rights-of-ways. Adjacent land uses include the Lone Butte Substation, agricultural and crop cultivation to the west, commercial developments (i.e., Wild Horse Pass and associated developments to the north), the Huhugam Heritage Center to the northeast, and industrial development (i.e., Revolution Industrial to the south and the reverse-osmosis plant and wastewater treatment plant to the west). The project is also bordered by SR 347 to the east and West Riggs Road to the south, the main thoroughfares into the project area (Figure 3). The project area is not currently zoned by the Community.

The 2019 National Land Cover Dataset (Multi-Resolution Land Characteristics Consortium 2019) indicates that the project site is dominated by shrub/scrub land, grasslands, and cultivated crops (i.e., agriculture). Additional land cover types mapped by the National Land Cover Dataset surrounding the project area include developed land (open space, low intensity, medium intensity, and high intensity), cultivated crops, barren land (rock, clay, and or sand), and open water.

The nearest residential development is Lone Butte Ranch, located 3.6 miles west of the project area along Chandler Heights Road. This community has a rural, 21-house neighborhood along 16th Street and Creosote Street; a farmstead 0.7 mile west of the neighborhood along Chandler Heights Road; and an apartment complex along 16th Street, almost 1 mile south of the neighborhood. The Proposed Action would be constructed on vacant land where hunting and gathering may take place. There are no trails, parks, play areas, or other recreational opportunities in or near the project area. No mineral extraction currently occurs within the project area.

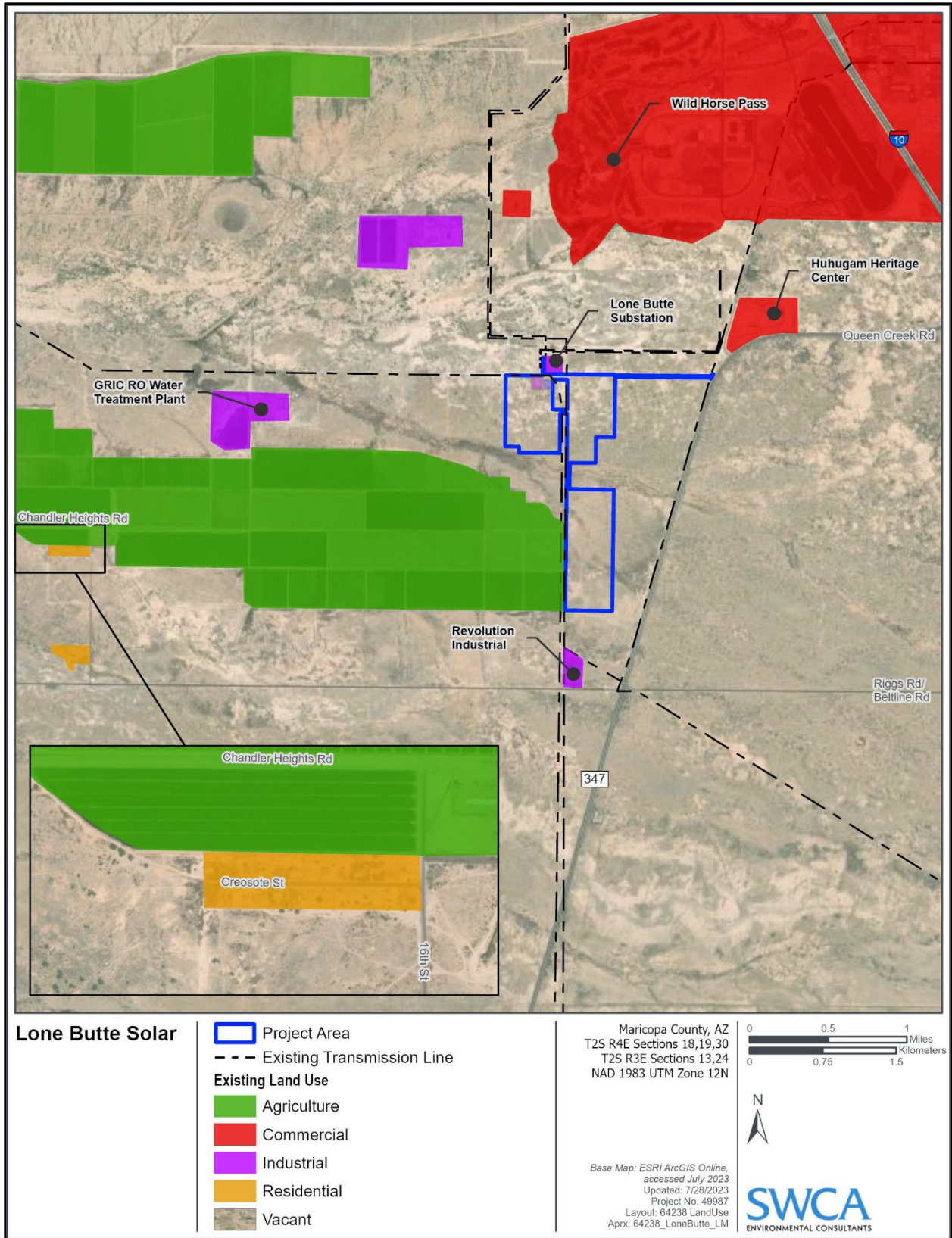


Figure 3. General land use in the project area and vicinity.

3.1.1.1.2. Future Land Use and Plans

The Proposed Action is subject to the Community’s General Land Use Plan, which requires that changes in land use, such as the Proposed Action, follow the Land Use Action Review (LUAR) process which is facilitated by the Community’s Land Use Planning and Zoning (LUPZ) department (see Appendix A). The LUAR process seeks input from all applicable Community Services regarding conformance of the Proposed Action to Community requirements. The Proposed Action is also subject to the Seven Districts Master Plan, which was considered during Community review and approval of the LUAR (see Appendix A). The project property has a classified general land use designation of “Agricultural”, pursuant to the GRIC General Land Use Plan, Section IV, A. It also has a Mixed-Use designation per the Master Plans of Districts 4 and 6 (see Appendix A).

The project is located partially in Districts 4 and 6 of the Community on agricultural lands (see Figure 3). Districts are political subdivisions of the Community and there are seven Districts total. District 4, also known as the Santan District, comprises eight villages, including East Lone Butte Village (GRIC 2015a). District 6, known as the Komatke District, comprises four villages, including Lone Butte Village (GRIC 2015b).

3.1.1.2. ENVIRONMENTAL CONSEQUENCES

3.1.1.2.1. No Action Alternative

The no action alternative would not impact land use because project construction would not occur. The existing land use in the project area would continue.

3.1.1.2.2. Proposed Action

The project would result in the conversion of 355 acres of vacant land into industrial use. The project would not displace, preclude, or impact other residential, commercial, agricultural, or industrial land uses in the project area because none occur. Decommissioning would bring the land back to its original state. The land would be leased to Lone Butte Solar from the Community, and the land would continue to be tribal trust land at the end of the project’s 35-year lifetime. There would be no effect on land ownership.

The Community’s LUPZ department determined that the project complies with the Community’s General Land Use Plan, specifically for “establishing... service businesses desired by local residents to serve the needs of the respecting communities” (Appendix A, Page 7). The project also complies with the goals, objectives, and strategies of Districts 4 and 6 by fostering economic diversification, developing alternative energy (especially solar), and providing reliable electricity for the Community.

The Project’s LUAR (Appendix A) concluded that the Proposed Action conforms to the General Land Use Plan and the Master Plans of Districts 4 and 6 with the following land use provisions:

- Site grading, paving, drainage, and project utilities plans for egress/ingress, parking, water, wastewater, electrical power, natural gas, lighting, fencing, landscaping, and signage shall be submitted for review and approval by GRIC Technical Stakeholders for a Certificate of Compliance prior to issuance of a construction permit.
- Architectural/Engineering plans for the project, including any structural, mechanical, electrical, plumbing, and site plans, shall be submitted for review and approval by GRIC’s Building Safety Department prior to issuance of a construction permit. The design and construction of the facilities shall adhere to the Gila River Fire Department Requirements. Refer to the checklist in Appendix E of the LUAR. Construction contractors shall call Arizona Blue Stake at 1-800-782-5348 to request location of any underground utilities within the project boundary.

Other provisions from the LUAR are included for water resources, vegetation, cultural resources, and air quality, included herein in those sections.

3.1.1.3. AVOIDANCE AND MINIMIZATION MEASURES

Avoidance and minimization measures are not proposed.

3.1.2. Important Farmland

The purpose of the Farmland Protection Policy Act of 1981 (7 USC 4201, et seq.) is “to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are...compatible with...policies to protect farmland” (7 USC 4201(b)). Areas that have been designated as “prime and unique farmland” or “farmland of statewide or local importance” by the Natural Resources Conservation Service (NRCS) are considered important farmland.

3.1.2.1. AFFECTED ENVIRONMENT

The NRCS’s Web Soil Survey tool was used to determine whether important farmland exists in the project area. According to the Web Soil Survey, approximately 255 acres of the project area is classified as farmland of unique importance (NRCS 2022). Major crops typical to the region (i.e., Maricopa County) and the project area include forage, cotton, and vegetables (Appendix B) The remaining 100 acres of the project area is not classified as important farmland and is generally concentrated in the area south of Lone Butte Substation.

3.1.2.2. ENVIRONMENTAL CONSEQUENCES

3.1.2.2.1. No Action Alternative

The no action alternative would not impact important farmland because project construction would not occur.

3.1.2.2.2. Proposed Action

The Proposed Action would result in the conversion of important farmland into nonagricultural use, reducing the potential land available for farmlands on Districts 4 and 6 by 255 acres. Federal agencies involved in Proposed Actions that may convert farmland, as defined in the Farmland Protection Policy Act, to nonagricultural uses must complete the USDA Farmland Conversion Impact Rating Form (Form AD-1006) and submit it to the NRCS local field office.

The AD-1006 Form reports that 255 acres of 349-acre project area is classified as “Prime and Unique Farmland” representing 73 percent of the total area. Farmland conversion was documented with USDA Form AD-1006 (see Appendix B). NRCS rated the relative value of the farmland to be 1.6 out of 100, whereas the federal agency site assessment criteria resulted in a score of 55 out of 160. The project received a total combined score of 56.6 of 260 on Form AD-1006. A total combined score of 160 points or greater is considered a substantial impact and would require consideration of avoidance alternatives. As the combined score for the Proposed Action is less than 160, consideration of avoidance alternatives is not warranted.

The farmland on the project site is in a non-urban area near farm support services and infrastructure, but the agricultural lands within the project area have not been active in the previous 10 years. The Proposed Action would not impact any on-farm investments or jeopardize demand for farm support services.

The project would convert farmable land and protected farmlands into nonagricultural use for the life of the project.

3.1.2.3. AVOIDANCE AND MINIMIZATION MEASURES

Avoidance and minimization measures are not proposed.

3.1.3. Formally Classified Lands

Formally classified lands are areas that have received special protection through formal legislative designations and are administered by federal, state, or local agencies; Tribes; or private parties. Formally classified lands include national parks and monuments; national forests and grasslands; national historic landmarks; national wildlife refuges; wilderness areas; wild, scenic, and recreational rivers; state parks; and Native American–owned lands.

3.1.3.1. AFFECTED ENVIRONMENT

The 355-acre project area is composed entirely of tribal trust lands, which are formally classified lands.

3.1.3.2. ENVIRONMENTAL CONSEQUENCES

3.1.3.2.1. No Action Alternative

The no action alternative would not impact any formally classified lands because project construction would not occur.

3.1.3.2.2. Proposed Action

The 355 acres of formally classified lands impacted by the project would result in a conversion of land use in the project area but would not change the formal classification of the project area; the project area would continue to be located on the tribal trust land and hold the same classification.

3.1.3.3. AVOIDANCE AND MINIMIZATION MEASURES

Avoidance and minimization measures are not proposed.

3.1.4. Indian Trust Assets

Indian trust assets are legal interests in the physical assets held in trust by the United States for federally recognized Native American tribes such as GRIC, or individual Native Americans. The Secretary of the Interior acts as trustee (Department of the Interior Secretarial Order 3215, April 2000). Examples of objects that may be trust assets include lands, minerals, hunting and fishing rights, and water rights.

3.1.4.1. AFFECTED ENVIRONMENT

The 355-acre project area is tribal trust land and therefore possesses Indian trust assets. Existing Indian trust assets within the project area include the value of land itself. There are no assessed mineral values, hunting or fishing rights, or water rights associated with the property.

3.1.4.2. ENVIRONMENTAL CONSEQUENCES

3.1.4.2.1. No Action Alternative

The no action alternative would not impact Indian trust assets.

3.1.4.2.2. Proposed Action

The 355 acres of Indian trust assets impacted by the project would result in an increase in the value of the existing parcel through development of solar energy. At the end of the project's lifetime, the Community will own the project and continue to generate renewable energy, benefitting Indian trust assets.

3.1.4.3. AVOIDANCE AND MINIMIZATION MEASURES

Avoidance and minimization measures are not proposed.

3.2. Floodplains

Executive Order (EO) 11988, signed on May 24, 1977, requires federal agencies to avoid, to the extent possible, the long-term and short-term adverse impacts associated with the occupancy and modifications of floodplains, and to avoid the direct or indirect support of floodplain development whenever there is a practicable alternative. The preferred method for satisfying this requirement is to avoid sites within the floodplain. If an action must be located within the floodplain, the executive order requires that agencies minimize potential harm to people and property and to natural and beneficial floodplain values by incorporating current floodplain management standards into the project. EO 11988 requires that agencies avoid the 100-year floodplain unless there is no practicable alternative. For this objective, implementing regulations of the Federal Emergency Management Agency (FEMA), 44 CFR 9 consist of an eight-step decision-making process.

EO 13690, signed on January 30, 2015, was issued to improve the nation's resilience to flooding and better prepare for the impacts of climate change. When avoiding floodplains is not possible, EO 13690 calls for agencies to make efforts to improve the resilience of communities as part of federal actions. This order established the Federal Flood Risk Management Standard, which requires a higher vertical elevation and a greater horizontal extent to the floodplain be considered. The additional vertical and horizontal increments are calculated by one of three methods: climate-informed science approach, freeboard value approach, or 0.2% annual chance flood (i.e., 500-year flood) approach.

The 500-year floodplain is defined by FEMA as the elevation on the terrain that has 0.2% annual chance of flooding (one in 500 years). Floodplain management guidelines require federal agencies to apply the 0.2% probability of flood occurrence in a given year to the location of "critical actions." Critical actions (24 CFR 55.2) are those defined as an activity for which even a slight chance of flooding would be too great a risk because it might result in loss of life, injury, or property damage.

The 100-year floodplain is defined by FEMA as the elevation on the terrain surrounding a river system at which a flood has a 1% chance of reaching in any given year. A regulatory floodway lies within the 100-year floodplain and is defined as the channel of a river or watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without increasing the water surface elevation more than a designed height.

The NRCS provides a flooding frequency classification that categorizes the magnitude of temporary inundation caused by the overflowing of streams, runoff from adjacent slopes, and tides. In the absence of mapped floodplains, this flooding frequency information is used to evaluate potential impacts to

floodplains (7 CFR 1970, Subpart C). The NRCS identifies soils by flooding frequency class (NRCS 2022) and is defined as the following:

- None: None means that flooding is not probable. The chance of flooding is nearly 0% in any year. Flooding occurs less than once in 500 years.
- Very Rare: Very rare means that flooding is very unlikely but possible under extremely unusual weather conditions. The chance of flooding is less than 1% in any year.
- Rare: Rare means that flooding is unlikely but possible under unusual weather conditions. The chance of flooding is 1% to 5% in any year.
- Occasional: Occasional means that flooding occurs infrequently under normal weather conditions. The chance of flooding is 5% to 50% in any year.
- Frequent: Frequent means that flooding is likely to occur often under normal weather conditions. The chance of flooding is more than 50% in any year but is less than 50% in all months in any year.
- Very Frequent: Very frequent means that flooding is likely to occur very often under normal weather conditions. The chance of flooding is more than 50% in all months of any year.

The Community does not participate in the National Flood Insurance Program and no-FEMA based analysis of flood hazards has been conducted for the project area. The LUPZ Flood Control Section maintains the *Draft Drainage Design Guidance Manual* which recommends projects consider localized drainage and sheet flow to ensure structures located downstream of project areas remain unaffected by project construction.

3.2.1. Affected Environment

The analysis area for floodplains is the project area. The project area is mapped on FEMA Flood Insurance Rate Map panels 04013C3075L and 04013C3100L as Zone D, undetermined flood hazard, which indicates a possible risk of flooding but that the level of risk is unknown. No analysis of flood hazards has been conducted in these areas. No special flood hazard zones are located within or adjacent to the project area (FEMA 2022).

In lieu of FEMA-mapped floodplains, the NRCS flooding frequency classification is used to evaluate presence of floodplains. The flood frequency classes designated by the NRCS Web Soil Survey (NRCS 2023) for the project area include “None” and “Occasional” (Figure 4). Over 99% of the project area is mapped as “None,” which indicates that flooding is not probable. The remaining 0.3% (1 acre) is mapped as “Occasional,” which indicates that flooding occurs infrequently under normal weather conditions and has a 5% to 50% chance of flooding in any given year (NRCS 2023). The area of Occasional flooding corresponds with an ephemeral wash (Feature 1) which crosses near the mid-point of the project area (see Figure 4). For the purpose of this analysis, the area of Occasional flooding is considered the 100-year floodplain.

The LUAR process completed by the Community’s LUPZ department included the results of a drainage assessment and associated Hydrologic Engineering Center (HEC) River Analysis System (RAS) and Hydrologic Modeling System (HMS) modeling which identified the potential for flooding to occur during a 100-year, 6-hour storm event interval isolated along an ephemeral wash located near the mid-point of the project area (see Figure 4 of Exhibit D in Appendix A). The modeling is generally consistent with the Occasional flooding limits mapped by the NRCS.

3.2.2. Environmental Consequences

3.2.2.1. NO ACTION ALTERNATIVE

The no action alternative would not impact floodplains because project construction would not occur.

3.2.2.2. PROPOSED ACTION

A proposed road crossing of an ephemeral wash is anticipated to be constructed within the portion of the project area mapped as Occasional flooding frequency class, and identified by the HEC-RAS and HEC-HMS modeling as an area with a potential for flooding. However, as the access road would be unpaved, and the wash crossing would be constructed at the existing grade and use up to two at-grade crossings (i.e., Arizona crossings). Along the proposed access road, an aboveground collection line would also be constructed that crosses the floodplain. However, it is anticipated that the poles for this collection line would be located outside of the floodplain, the collection line would span the wash, and it would not impact the Occasional flooding frequency class area or HEC-RAS and HEC-HMS modeled area. No other portion of the project would encroach in this wash crossing or area of Occasional flooding or area identified by the HEC-RAS and HEC-HMS modeling.

To ensure the Proposed Action is consistent with EO 11988, Floodplain Management, development in the floodplain was evaluated using the eight-step decision-making process. The eight-step decision-making process prepared for the Proposed Action is provided in Appendix C.

Of the approximately 1 acre within the project area that lies within the Occasional flooding limits, approximately 0.32 acre would be directly altered in the footprint of the proposed access road; however, modifications that may be made for the wash crossing of the access road would allow for the continued downstream flow of floodwaters across the access road and would not result in impoundment of water above the road or slow flow rates or change the flooding frequency class within the project area. A detailed hydrologic and hydraulic investigation meeting requirements set forth in the latest version of the *Draft Drainage Design Guidance Manual* administered by the LUPZ Flood Control Section would be provided to ensure that downstream areas and structures are unaffected.

3.2.2.3. AVOIDANCE AND MINIMIZATION MEASURES

The Proposed Action will comply with all requirements of the LUPZ Flood Control Section and *Draft Drainage Design Guidance Manual* for construction in the floodplain.

3.3. Wetlands

Section 404 of the CWA (33 USC 1251, et seq., 1344), which is administered by the U.S. Army Corps of Engineers (USACE), regulates the placement of fill or dredged material into wetlands and other waters of the U.S. (WOTUS) defined under 33 CFR 328.3. In addition, the purpose of EO 11990, signed on May 24, 1977, is to “minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.” To meet these objectives, it requires federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided.

Rural Development Programs use the term “wetland” as defined under the Food Security Act of 1985 (USDA 1985) to mean the following:

- has a predominance of hydric soils;

- is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions; and
- under normal circumstances does support a prevalence of such vegetation.

3.3.1. Affected Environment

The analysis area for wetlands is the project area. The *Aquatic Resources Assessment for the Lone Butte Solar Project in Maricopa County, Arizona* (Aquatic Resources Assessment) (SWCA 2022) summarizes the water resources within the project area based on findings from the desktop review and field reconnaissance. None of the plant species observed in the project area have a wetland indicator status of facultative wetland or obligate wetland and no hydric soils were identified. In addition, no vegetation exhibited the hydrophytic vegetation parameter for the presence of wetlands (USACE 1987, 2008). Based on that assessment, no wetlands or other special aquatic sites are present within the project area.

3.3.2. Environmental Consequences

3.3.2.1. NO ACTION ALTERNATIVE

No wetlands are present within the project area; therefore, this alternative would have no impact to wetlands.

3.3.2.2. PROPOSED ACTION

No wetlands are present within the project area; therefore, the Proposed Action would have no impact to wetlands.

3.3.2.3. AVOIDANCE AND MINIMIZATION MEASURES

Avoidance and minimization measures are not proposed.

3.4. Water Resources

3.4.1. Affected Environment

This section provides an overview of the water resources of the project area and addresses water quantity and quality issues related to discharges to or appropriations from surface or groundwater, groundwater protection programs (e.g., programs that protect sole-source aquifers and recharge areas), and water quality degradation from temporary construction activities. Water quality and quantity changes can impact other environmental resources including groundwater and drinking water supplies, threatened and endangered species, other fish and wildlife species, and wetlands. The water resources analysis area is the Firebird Lake-Gila River watershed, which encompasses an area of 447 square miles (286,080 acres).

3.4.1.1. SURFACE WATER

3.4.1.1.1. Surface Water Quantity

The Aquatic Resources Assessment (SWCA 2022) summarizes the water resources within the project area based on findings from the desktop review and field reconnaissance on August 17, 2021. As noted in that report, surface water features in the project area were evaluated for physical characteristics of

WOTUS, including ordinary high-water mark (OHWM) indicators and bed and banks, and for a significant nexus to a downstream traditional navigable water (TNW) to identify if that feature may be considered jurisdictional based on USACE and U.S. Environmental Protection Agency (EPA) guidance available at the time of the review, which included WOTUS under Section 404 of the federal CWA under the post-Rapanos definition (EPA and USACE 2008). The CWA and associated WOTUS definitions have undergone a series of changes. Most recently, the March 2023 Revised Definition of Waters of the United States (2023 WOTUS Rule) was amended on September 8, 2023, to conform the definition of WOTUS to the Supreme Court of the United States decision in the *Sackett v. Environmental Protection Agency* case (EPA 2023a). The amended 2023 WOTUS Rule is currently effective in Arizona. The 2023 WOTUS Rule and amendment were developed by the EPA and USACE to clarify nationwide regulations that define the jurisdictional extent of the CWA and the definition of WOTUS for use in regulations under the CWA. The USACE also maintains jurisdiction over navigable waters under Section 10 of the Rivers and Harbors Act, which includes waters that are “navigable-in-fact” and traditionally navigable waters. The segment of the Gila River from Powers Butte to Gillespie Dam is the nearest downstream TNW to the project area.

One surface water feature (Feature 1) on-site that exhibited an OHWM was further evaluated for a potential nexus to the nearest TNW (as summarized below) (see Figure 4). A second surface water feature, Feature 2, did not exhibit continuous OHWMs or bed and banks, and was therefore not identified as a potential WOTUS or further evaluated for a potential nexus to the nearest TNW (see Figure 4). There are no special aquatic sites (including wetlands, sanctuaries and refuges, mudflats, vegetated shallows, coral reefs, and riffle and pool complexes) as defined by the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987), relatively permanent waters, intermittent or perennial waters, or TNWs in the project area.

The project area lies within the approximately 447-square-mile Firebird Lake-Gila River watershed (10-digit Hydrologic Unit Code 1505010011) in the Middle Gila Basin, as defined by the U.S. Geological Survey (USGS) Watershed Boundary Dataset (USGS 2022). Stormwater runoff travels northwest across the project area and flows approximately 2.1 miles via Feature 1 until it reaches the southern bank of an agricultural drainage canal. At that point, stormwater either ponds south of the canal— where it evaporates, percolates into the soil, or is taken up by plants for evapotranspiration—or overtops the southern bank of the canal and travels approximately 5.9 miles through the canal before discharging into the Gila River. Therefore, the distance from the project area to the discharge point into the Gila River is approximately 8 river miles.

The TNW segment of the Gila River (from Powers Butte to Gillespie Dam) is more than 42 river miles farther downstream of the confluence point of the canal with the lower Gila River, for a total distance of more than 50 miles from the project area. The low-gradient topography, low annual precipitation, and soil characteristics of the project area promote low volumes and velocities of stormwater runoff across the project area and beyond. The potential for a significant hydrological nexus and/or contribution of flows to the nearest TNW, given the low stormwater volumes, impediments causing impoundments, the high density of vegetation in the Gila River upstream of the TNW segment, and extensive distance to the nearest downstream TNW segment of the Gila River (more than 50 river miles) would be speculative. Under the amended 2023 WOTUS Rule, non-navigable tributaries must be relatively permanent, standing or continuously flowing waters with a continuous surface connection to a TNW, territorial sea, or interstate water, and wetlands must have a continuous surface connection to a relatively permanent water, TNW, territorial sea, or interstate water. Any stormwater runoff crossing the project area that may reach the nearest receiving TNW would be at such low levels that it would have, at most, an insignificant effect on the biological, chemical, or physical integrity of the TNW. Because of the reasons stated above, none of the surface waters crossing the project area would be considered WOTUS or subject to Section 404 of the CWA under the 2008 post-Rapanos guidance or the amended 2023 WOTUS Rule.

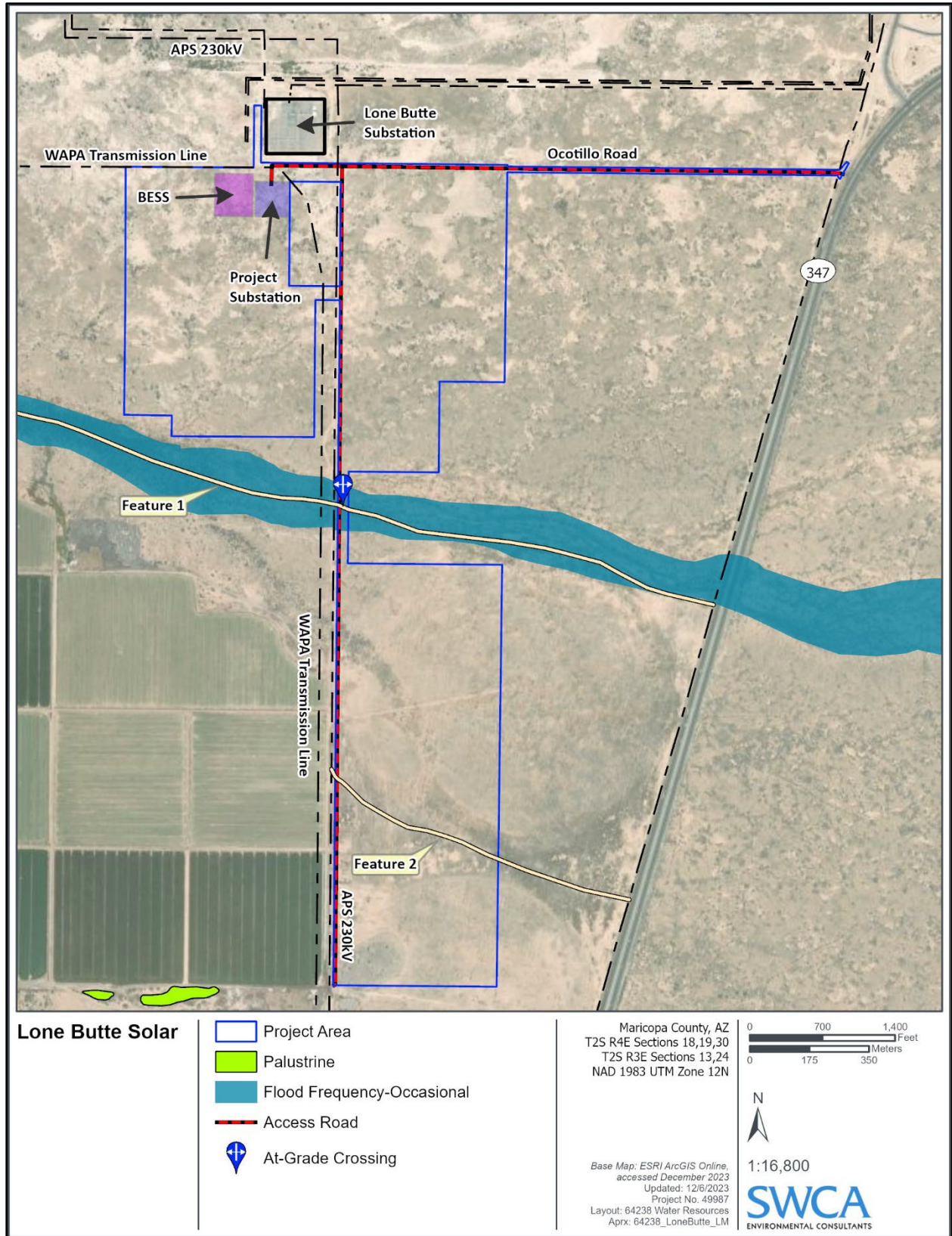


Figure 4. Surface water features.

The Community and Lone Butte Solar submitted the Aquatic Resources Assessment (SWCA 2022a) to the USACE to solicit feedback on the potential for WOTUS in the project area. The USACE responded to the request for review but did not provide a formal jurisdictional determination for the project area. In the agency's response on October 27, 2022, the USACE concurred with the overall findings of the report and that the delineated boundaries of the aquatic features in the project area are a reasonable representation of the aquatic resources located on-site (Appendix D). Based on the review of available information, observations from the field reconnaissance, and the definition of WOTUS under the amended 2023 WOTUS Rule, the surface water features in the project area are still unlikely to be considered jurisdictional WOTUS. No further correspondence is anticipated.

3.4.1.1.2. Surface Water Quality

The climate, low-gradient topography, and soil characteristics of the project area promote low volumes and low velocities of stormwater runoff across the project area and beyond. Infiltration and evaporation reduces long-distance stormwater runoff flows (NRCS 2022; USGS 2022). The surface water within the project area is ephemeral, with measurable flows only following large-scale precipitation events. Therefore, surface water quality is measurable only as associated with seasonal stormwater flow. In coordination with the GRIC Department of Environmental Quality, the EPA as authority and is responsible for reviewing and issuing Section 401 water quality certifications and National Pollutant Discharge Elimination System (NPDES) permits under Sections 401 and 402 of the CWA, respectively, for discharges to WOTUS.

Arizona impaired waters require development of a Total Maximum Daily Load study and fulfill CWA requirements for assessments, impaired water identification and lake water quality (CWA sections 305(b), 303(d) and 314, respectively). There are no impaired waters within or in the vicinity of the project area. The nearest downstream impaired water is a segment of the Gila River located approximately 26 river miles northwest of the project area (Arizona Department of Environmental Quality [ADEQ] 2022).

3.4.1.2. GROUNDWATER

3.4.1.2.1. Groundwater Quantity

The following sources were reviewed for potential groundwater resources information: Arizona Department of Water Resources (ADWR) Arizona Water Atlas (ADWR 2010) and ADWR Registry of Wells in Arizona interactive map (ADWR 2022). The project area is not under ADWR jurisdiction, but the Arizona Water Atlas and well registry contain data regarding groundwater conditions within and/or in the vicinity of project area.

The project area is located within the ADWR's Phoenix Active Management Area (AMA) planning area and groundwater basin. The Phoenix AMA was established by the 1980 Groundwater Code to reduce localized groundwater overdraft and achieve safe yield (i.e., groundwater withdrawal is not greater than recharge into the aquifer) by 2025. The Community's use of groundwater may impact the Phoenix AMA. However, since the Community is not under the jurisdiction of the ADWR, compliance with the Phoenix AMA Fifth Management Plan is not required (ADWR 2020).

Community water in the Phoenix AMA includes the following sources: Central Arizona Project (CAP) water from the Colorado River; Salt River Project resources from the Salt River, Verde River, and East Clear Creek; Globe Equity Decree Water from the Gila River; groundwater; and treated effluent/reclaimed water (ADWR 2010). CAP water is the largest component of the Community's water rights. As of 2017, water entitlements for the Community totaled 311,800 acre-feet per year (ADWR 2010) and the Community stores unused CAP water underground in central Arizona's aquifers.

Primary demand sectors for the Community include industrial parks, gaming facilities, and agriculture; the water demand for agriculture constitutes approximately 98% of the total water demand. Tribal groundwater demand increased until 1990 and then leveled out (ADWR 2010).

ADWR maintains an online database of registered wells (Wells 55) and field-verified wells (Groundwater Site Inventory) (ADWR 2022). A search of the ADWR's online database showed that there are four wells mapped within approximately 1 mile of the project area, none of which are field-verified Groundwater Site Inventory wells. The depths to groundwater in these wells range from 53 to 120 feet below ground level (ADWR 2022).

3.4.1.2.2. Groundwater Quality

The aquifer underlying the East Salt River Valley, which includes the project area, generally has three separate alluvial units: the upper alluvial unit, which consists of unconsolidated coarse-grained materials; the middle alluvial unit, which consists of silt and clay materials; and the lower conglomerate unit, which consists of a mix of coarse- and fine-grained materials (ADWR 1999). Groundwater quality is generally suitable for most uses, with volatile organic compounds being the most common contaminant within the AMA. No contamination sites are expected to occur in the project area (ADWR 2010). A Community Department of Public Works 2020 water quality annual water quality report for the Stotonic public water system (No. 090400096), which serves District 4, indicates that water quality meets federal drinking water standards (GRIC 2020). A review of the Arizona Well Registry (ADWR 2022) did not indicate that nearby wells had any water quality exceedances.

3.4.1.3. WATER RIGHTS

The Arizona Water Settlements Act of 2004 provided the Community with water rights to 653,500 acre-feet (approximately 212,944 million gallons) of water annually from the CAP, the Gila River, the Salt River, and groundwater (ADWR 2004).

3.4.2. Environmental Consequences

3.4.2.1. NO ACTION ALTERNATIVE

The no action alternative would not impact water resources because project construction would not occur.

3.4.2.2. PROPOSED ACTION

3.4.2.2.1. Surface Water

Surface Water Quantity

One ephemeral surface water present in the project area (Feature 1) would be crossed by a proposed access road. The potential surface water exhibits OHWM indicators, but the Aquatic Resources Assessment concluded that the feature is unlikely to be a WOTUS (SWCA 2022). It is anticipated that the Proposed Action would create impacts to this surface water feature by the proposed access road crossing, but impacts would have no effect on surface water quantity because improvements would allow for downstream flow across the access road and would not result in an impoundment.

The LUAR specifies that development in this area shall provide a detailed hydrologic and hydraulic investigation to the LUPZ Flood Control Section meeting the requirements set forth in the latest *Draft Drainage Design Guidance Manual* (see Appendix A) to ensure that downstream areas and structures are unaffected by the Proposed Action.

Surface Water Quality

Ground-disturbing activities during construction have the potential to release contaminants (mostly sediment) through runoff and erosion during storm events, and water used during construction would be obtained from existing local sources. As the distance to the nearest receiving water (Gila River) is 8 miles, and due to the human-made drainage canal acting as a barrier, no surface water quality impacts are anticipated. Implementation of best management practices (BMPs) is required by the NPDES, construction general permit, and associated stormwater pollution prevention plan (SWPPP) that would be implemented during construction; the BMPs would prevent spills and control sediment and pollutants from leaving the project site. The potential for construction water to impact surface water quality would be limited by the implementation of BMPs and due to the distance of the nearest surface water.

3.4.2.2.2. Groundwater

Groundwater Quantity

The water demand for the Proposed Action during construction would be approximately 80 acre-feet of water used for dust suppression, compaction, and other miscellaneous needs and would be made available through connections to existing Community water line infrastructure. Water would be used during operations for periodic dust suppression and would require less than 1-acre foot per year. The water use associated with the Proposed Action would reduce the overall quantity of the Community's groundwater; however, given the Community's current water rights allotment, the Community has sufficient water supply to serve the Proposed Action without reducing availability of water resources for other Community needs.

Groundwater Quality

Ground-disturbing construction activities would not reach the depth of the water table and no direct impacts to groundwater quality are anticipated as a result of the Proposed Action. Although BMPs for spill prevention would be in place during construction, indirect impacts to groundwater could occur from spills or leaks of hazardous material or pollutants from construction equipment.

Long-term operations are not expected to generate leaks or spill directly onto permeable soil surfaces.

3.4.2.2.3. Water Rights

The project construction and operations would use Community sources of water, including groundwater and CAP water. Since the project would not require acquisition or transfer of water rights, there would be no impacts to water rights as a result of the project.

3.4.2.3. AVOIDANCE AND MINIMIZATION MEASURES

- The existing landscape (e.g., slope, drainage, use of existing roads) will be maintained, where feasible, to minimize or avoid grading work and land disturbance to the maximum extent possible.
- Temporary disturbance areas will be recontoured and revegetated after construction to increase infiltration and reduce soil compaction, as feasible.
- Engineered SWPPP plans will be submitted to the Community prior to the start of construction and designated on-site SWPPP inspectors will be employed for routine inspections as well as for inspections after storm events per the plan outlined in the SWPPP.

3.5. Biological Resources

This section has been prepared in accordance with the Endangered Species Act, Bald and Golden Eagle Protection Act, and Migratory Bird Treaty Act and provides a discussion of general biological resources, federally listed species, GRIC culturally sensitive and GRIC Native Plant Law-protected flora and fauna, migratory bird and eagle species, and invasive species that may occur or are known to occur within the project area. The analysis area for biological resources is the project area. The biological resources analysis is based on publicly available information and information collected during a site reconnaissance survey conducted on August 21, 2021.

3.5.1. General Fish, Wildlife, and Vegetation Resources

3.5.1.1. AFFECTED ENVIRONMENT

The project area is located in the Lower Colorado River Valley subdivision of the Sonoran Desert scrub biotic community (Brown 1994) and consists of open desert and previously graded areas with vegetation dominated by non-native plant species, as well as small ephemeral washes where vegetation is more dense and individual plants are larger than in upland areas. The elevation within the project area is approximately 1,130 to 1,140 feet above mean sea level (amsl).

The majority (92%) of the project area is mapped by the Southwest Regional Gap Analysis Project (SWReGAP) (USGS 2016) as Sonora-Mojave Mixed Salt Desert Scrub (82%) and Sonora-Mojave Creosotebush-White Bursage Desert Scrub (11%) (Figure 5). Table 2 lists the SWReGAP landcover classes in the project area by acreage and percentage.

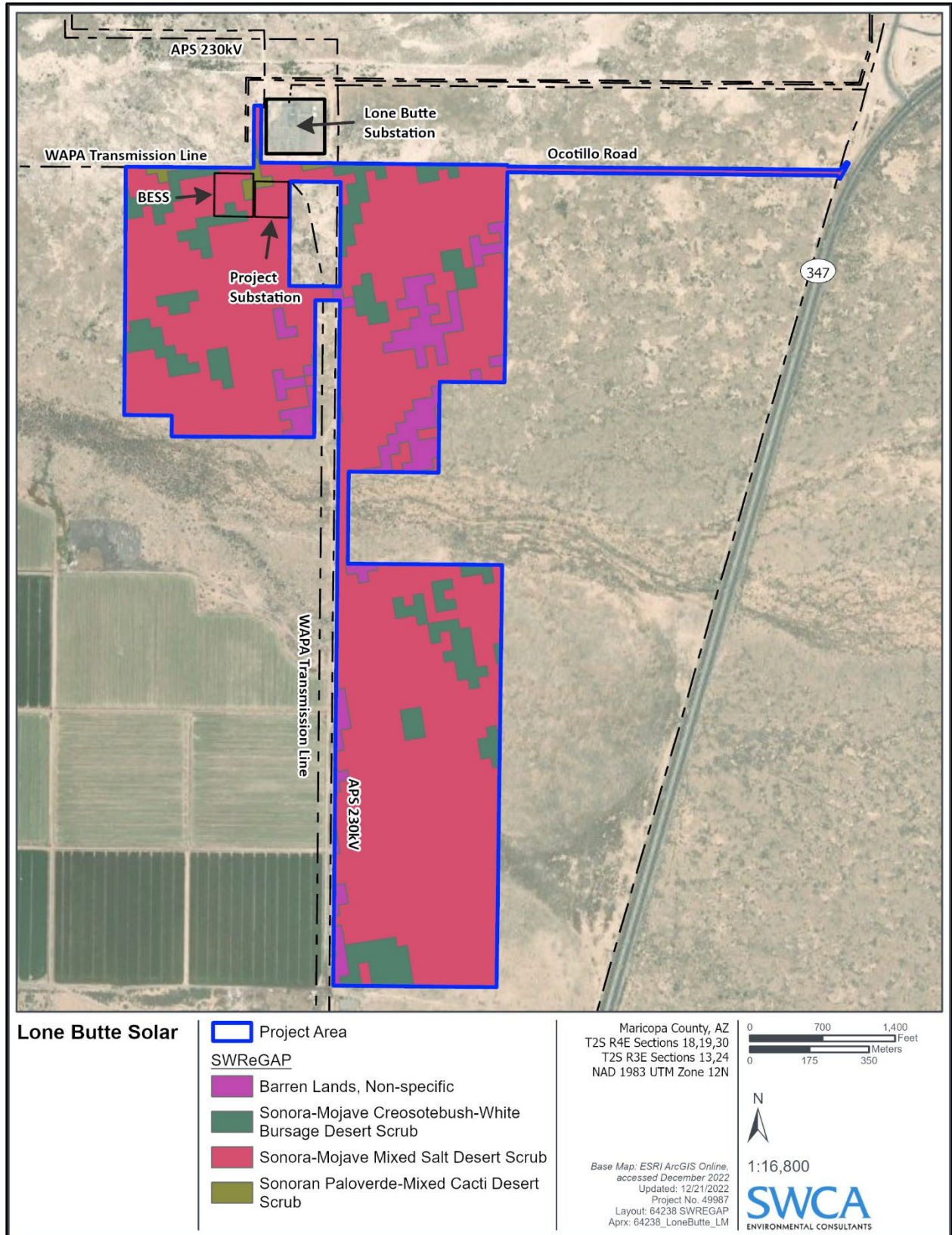


Figure 5. Vegetation communities in the analysis area.

Table 2. Vegetation Communities in the Analysis Area

Vegetation Community	Acres	Percentage of Project Area
Sonora-Mojave Mixed Salt Desert Scrub	290	82%
Sonora-Mojave Creosotebush-White Bursage Desert Scrub	38	11%
Barren Lands, Non-specific	25	7%
Sonoran Paloverde-Mixed Cacti Desert Scrub	2	<1%
Agriculture	<0.1	<1%
Total	355	100%

A field reconnaissance survey of the project area was conducted on August 21, 2021. Velvet mesquite (*Prosopis velutina*) and burrobush (*Ambrosia dumosa*) were the dominant species within the open desert areas, while little hogweed (*Portulaca oleracea*) dominated the previously graded areas. Other species present included big saltbush (*Atriplex lentiformis*), California barrel cactus (*Ferocactus cylindraceus*), carelesslyweed (*Amaranthus palmeri*), creosote bush (*Larrea tridentata*), desert globemallow (*Sphaeralcea ambigua*), desert-thorn (*Lycium* sp.), fourwing saltbush (*Atriplex canescens*), lotebush (*Ziziphus obtusifolia*), triangle leaf bursage (*Ambrosia deltoidea*), turpentine bush (*Ericameria laricifolia*), fringed twinevine (*Funastrum cynanchoides* ssp. *cynanchoides*), and wolfberry (*Lycium* spp.) were also observed. Puncturevine (*Tribulus terrestris*) was also observed within the project area and is listed as a noxious weed by the Arizona Department of Agriculture (ADA) (2020).

General wildlife observed during the field reconnaissance survey included desert cottontail (*Sylvilagus audubonii*), coyote (*Canis latrans*), black-throated sparrow (*Amphispiza bilineata*), red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), white-winged dove (*Zenaida asiatica*), Gambel’s quail (*Callipepla gambelii*), and house finch (*Haemorhous mexicanus*). Small mammal burrows were present, including some that are suitable for use by western burrowing owl (*Athene cunicularia*) and large enough for coyote or kit fox (*Vulpes macrotis*). No sign of western burrowing owl was observed during the field reconnaissance survey. All bird species observed except Gambel’s quail are addressed under the Migratory Bird Treaty Act (see Section 3.5.4). No special areas of concern (e.g., riparian areas, wetlands, natural cave or mine features, or wildlife corridors or linkages) that may concentrate wildlife species are present in the project area.

3.5.1.2. ENVIRONMENTAL CONSEQUENCES

3.5.1.2.1. No Action

The no action alternative would not impact general fish, wildlife, and vegetation resources. Wildlife habitat and vegetation would not be altered, and current land use would continue.

3.5.1.2.2. Proposed Action

The Proposed Action would result in the removal of up to 355 acres of vegetation by mowing and limited grading activities during the initial site preparation phase. Earthmoving equipment, such as bulldozers and graders, would clear vegetation to build the BESS (if constructed), project substation, and new access roads within the project area. Areas outside of new access roads, BESS (if constructed), and project substation would be mowed to a height of approximately 3 inches, if needed. Up to 14 acres of existing vegetation would be permanently removed for installation of new infrastructure: 3 acres for the BESS (if needed), 3 acres for the substation, and 8 acres for new access roads. The remaining 341 acres would be actively maintained by mowing vegetation as necessary to control growth for the duration of the project. Herbicides and pesticides may also be used.

Construction activities may disturb and displace wildlife species (impacts specific to migratory birds are discussed in detail in Section 3.5.4). Noise, vibration, and dust from construction and human activity may displace animals living in or moving through the project area. Incidental injury and mortality from construction of the Proposed Action would be limited to slow-moving or burrowing species, such as small mammals and reptiles that may be unable to move away from the active construction area. During the construction phase of the project, increased vehicle use on existing and new roads may increase the number of animal collisions with vehicles.

The 8-foot-tall chain-link security fence, which includes 1-foot of 3-strand barbed wire, would exclude larger animals such as coyote, kit fox, and javelina (*Tayassu tajacu*) from the project area for the life of the Proposed Action, removing 355 acres of existing habitat from use. Smaller-bodied wildlife species such as small mammals and reptiles, as well as birds and bats, would be able to move through or fly over the security fence and use habitats within the project area after construction, though regular mowing may remove or limit nesting materials and habitat as well as cover and refuge. During construction and operation, security floodlights may disturb or disrupt wildlife movements in and around the project area; however, as the lights would be motion-activated and downward-facing, the level of potential disturbance would be limited to the immediate area and for intermittent periods of time.

Approximately 35 years after commercial operations begin, the project would either be decommissioned, with the facility dismantled and the project site restored, or it would become property of the Community. If decommissioning occurs, impacts would be similar to the construction phase of the project.

3.5.1.3. AVOIDANCE AND MINIMIZATION MEASURES

- Trenches/holes will be filled immediately or escape ramps for wildlife will be provided. Trenches will be inspected and any animals will be removed prior to backfilling.
- Areas of surface disturbance will be minimized to the extent feasible and, if applicable, restoring exposed soils as closely as possible to their original contour and vegetation.

3.5.2. Endangered Species Act-listed Threatened and Endangered Species

The ESA (16 USC 1531 et seq.) provides for the listing, conservation, and recovery of endangered species. Section 9 of the ESA prohibits the take of any endangered or threatened species listed under the ESA. In reference to fish and wildlife, the ESA defines “take” as “...to harass, pursue, hunt, shoot, wound, kill, trap, capture, or collect: species listed as endangered or threatened, or to attempt to engage in any such conduct.” In reference to plants, the ESA defines “take” as “...to collect, pick, cut, dig up, or destroy in any manner.” The no-take provisions under the act, which prohibit landowners from causing harm to listed species, apply only to animals. In contrast, listed plants occurring on federal lands receive full protection under the ESA.

3.5.2.1. AFFECTED ENVIRONMENT

One of the 19 species listed by the U.S. Fish and Wildlife Service (USFWS) (2023a) as endangered, threatened, non-essential experimental populations (EXPN), or candidate species for Maricopa County may occur in the project area. The project area is within the known range of and contains vegetation and landscape features known to support monarch butterfly (*Danaus plexippus*), a candidate species for listing. The project area is clearly beyond the known geographic or elevational range of the remaining 18 species, or it does not contain vegetation or landscape features known to support these species, or both. Habitat requirements, potential for occurrence, and possible effects of the project for all 19 species are summarized in Table 3.

Designated critical habitat for five listed species is present within Maricopa County (2023a). None of these critical habitats overlap the project area. The nearest critical habitat (USFWS 2023b) is for the Acuña cactus (*Echinomastus erectocentrus* var. *acunensis*), 41 miles to the southwest of the project area in the Santan Mountains.

Table 3. Federally Listed Species Potentially Occurring in Maricopa County, Arizona

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area	Determination of Effect
Acuña cactus (<i>Echinomastus erectocentrus</i> var. <i>acunensis</i>)	E-CH	This cactus occurs in disjunct populations across southern Arizona on well-drained gravel ridges and knolls on granite-derived soils. It grows in the Arizona Upland subdivision of the Sonoran Desertscrub plant association at elevations between 1,198 and 2,789 feet amsl. This species occurs in Maricopa, Pima, and Pinal Counties.	Unlikely to occur. There are no gravel ridges or knolls with granite-derived soils, and the project area is not within the current range of this species.	No effect.
Arizona cliffrose (<i>Purshia subintegra</i>)	E	This plant occurs in central Arizona in white limestone soils derived from tertiary lakebed deposits at elevations below 4,000 feet amsl. This species occurs in Graham, Maricopa, Mohave, and Yavapai Counties.	Unlikely to occur. There are no rolling limestone hills in the project area, and the project area is not within the current range of this species.	No effect.
California least tern (<i>Sterna antillarum browni</i>)	E	Forms nesting colonies on barren to sparsely vegetated areas. Nests in shallow depressions on open sandy beaches, sandbars, gravel pits, or exposed flats along shorelines of inland rivers, lakes, reservoirs, and drainage systems at elevations below 2,000 feet amsl. Found in Maricopa, Mohave, and Pima Counties.	Unlikely to occur. Suitable habitat for this species is not present in the project area.	No effect.
Desert pupfish (<i>Cyprinodon macularius</i>)	E	Found in shallow waters of desert springs, small streams, and marshes at elevations below 5,000 feet amsl. One natural population still occurs in Quitobaquito Spring and Quitobaquito Pond in Pima County, and reintroductions have been made in Pima, Pinal, Maricopa, Graham, Cochise, La Paz, and Yavapai Counties.	Unlikely to occur. There are no permanent water sources suitable for this species in or adjacent to the project area.	No effect.
Gila chub (<i>Gila intermedia</i>)	E	Found in pools in smaller streams, cienegas, and artificial ponds ranging in elevation from 2,000 to 5,500 feet amsl. Highly secretive, adults prefer deeper, quieter waters in pools and eddies below riffles or runs, often remaining in cover from terrestrial vegetation, boulders, and fallen logs	Unlikely to occur. There are no permanent water sources suitable for this species in or adjacent to the project area.	No effect.
Gila topminnow (incl. Yaqui) (<i>Poeciliopsis occidentalis</i>)	E	Occurs in small streams, springs, and cienegas at elevations below 4,500 feet amsl, primarily in shallow areas with aquatic vegetation and debris for cover. In Arizona, most of the remaining native populations are in the Santa Cruz River system.	Unlikely to occur. There are no permanent water sources suitable for this species in or adjacent to the project area.	No effect.
Gila trout (<i>Oncorhynchus gilae</i>)	T	Occurs in small, mountain headwater streams above 5,000 feet amsl.	Unlikely to occur. There are no permanent water sources suitable for this species in or adjacent to the project area.	No effect.

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area	Determination of Effect
Mexican wolf (<i>Canis lupus baileyi</i>)	EXPN	Found in mid- to high-elevation woodlands, including oak, pinyon pine, juniper, ponderosa pine, and mixed-conifer forests above 4,500 feet amsl. The only current reintroduction area is in east-central Arizona and western New Mexico.	Unlikely to occur. The project area is outside the species' currently known range and is not within a potential reintroduction area.	No effect.
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	T-CH	Found in mature montane forests and woodlands and steep, shady, wooded canyons. Can also be found in mixed-conifer and pine-oak vegetation types. Generally, nests in older forests of mixed conifers or ponderosa pine (<i>Pinus ponderosa</i>)–Gambel oak (<i>Quercus gambelii</i>). Nests in live trees on natural platforms (e.g., dwarf mistletoe [<i>Arceuthobium</i> spp.] brooms), snags, and canyon walls at elevations between 4,100 and 9,000 feet amsl.	Unlikely to occur. The project area does not contain suitable habitat for this species, and the project area is below the known elevational range of this species.	No effect.
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 has been recorded within 5 miles of the project area and the project area contains suitable foraging and breeding habitat.	May impact individuals but is not likely to result in a trend toward federal listing or loss of viability. See Section 3.5.2.1.1 below.
Nichol's Turk's head cactus (<i>Echinocactus horizonthalonius</i> var. <i>nicholii</i>)	E	Found in Sonoran desertscrub with limestone-derived alluvium at elevations between 2,000 and 3,600 feet amsl. In Arizona, its known range is limited to the Waterman and Vekol Mountains.	Unlikely to occur. The project area is far from known populations in the Waterman and Vekol Mountains.	No effect.
Ocelot (<i>Leopardus pardalis</i>)	E	In Arizona, this species has typically been observed in subtropical thorn forest, thornscrub, and dense, brushy thickets at elevations below 8,000 feet amsl and is often found in riparian bottomlands. The critical habitat component is probably dense cover near the ground and complete avoidance of open country. In Arizona, there are five recent confirmed sightings of ocelot in Cochise County (2009–2012), one confirmed sighting near Globe (2010), and unconfirmed sightings in the Chiricahua and Peloncillo Mountains.	Unlikely to occur. The species is very rare, and there are no dense, brushy thickets or riparian bottomlands in the project area. In recent years, this species has been documented in several areas in southern Arizona, including a dead ocelot on U.S. Route 60 between Superior and Globe, approximately 70 miles east of the project area.	No effect.
Razorback sucker (<i>Xyrauchen texanus</i>)	E-CH	Found in riverine and lacustrine areas, generally not in fast-moving water, and may use backwaters at elevations below 6,000 feet amsl.	Unlikely to occur. There are no permanent water sources suitable for this species in or adjacent to the project area.	No effect.

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area	Determination of Effect
Sonoran pronghorn (<i>Antilocapra americana sonoriensis</i>)	E/EXPN	Found in Sonoran desertscrub within broad, intermountain alluvial valleys with creosote bush (<i>Larrea tridentata</i>)–bursage (<i>Ambrosia</i> spp.) and paloverde (<i>Parkinsonia</i> spp.)–mixed cacti associations at elevations between 2,000 and 4,000 feet amsl. The only extant U.S. population is in southwestern Arizona; however, the USFWS has established a 10(j) area for reintroductions. The only current reintroduction area is in and near the Kofa National Wildlife Refuge.	Unlikely to occur. The project area is outside the species' currently known range and is not within a reintroduction area.	No effect.
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	E-CH	Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow, 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 amsl.	Unlikely to occur. Suitable habitat is not present in the project area.	No effect.
Spikedace (<i>Meda fulgida</i>)	E	Mid-water habitats, including runs, pools, and swirling eddies below 4,500 feet amsl.	Unlikely to occur. There are no permanent water sources suitable for this species in the project area.	No effect.
Woundfin (<i>Plagopterus argentissimus</i>)	EXPN	Found in shallow, warm, turbid, fast-flowing water below 4,500 feet amsl. Tolerates high salinity. In Maricopa County, it has been reintroduced to the Hassayampa River.	Unlikely to occur. There are no permanent water sources suitable for this species in the project area.	No effect.
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	T-CH	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.	No effect.
Yuma Ridgway's [clapper] rail (<i>Rallus obsoletus [longirostris] 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.	No effect.

Source: Range or habitat information is from Arizona Game and Fish Department (2023); USFWS (2023c); Arizona Rare Plant Committee (ca. 2001); and Corman and Wise-Gervais (2005).

* USFWS Status Definitions:

C = Candidate. Candidate species are those for which the USFWS has sufficient information on biological vulnerability and threats to support proposals to list as endangered or threatened under the ESA. However, proposed rules have not yet been issued because such actions are precluded at present by other listing activity.

E = Endangered. An animal or plant species in danger of extinction throughout all or a significant portion of its range.

EXPN = Experimental Population, Non-Essential. Experimental populations of a species designated under Section 10(j) of the ESA for which the USFWS, through the best available information, believes is not essential for the continued existence of the species. Regulatory restrictions are considerably reduced under an EXPN designation.

T = Threatened. An animal or plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

CH = Critical habitat.

3.5.2.1.1. Monarch Butterfly

A petition to list the monarch butterfly was submitted to the USFWS in 2014; the species was determined to be warranted for listing but is currently precluded from listing by other priorities and is currently a candidate species for listing under the ESA. Monarch butterflies in North America take a long-distance migration of about 1,850 miles southward to overwinter in Mexico and California. Adult monarch butterflies feed on nectar from many different types of flowers and are dependent on milkweed (*Asclepias* spp.) as host plants and food sources for larvae, which emerge from eggs after 2–5 days, pupate into a chrysalis, then emerge as a butterfly after 9–14 days as a chrysalis. Adult monarchs live for 2–5 weeks, with adults that overwinter living for 6–9 months (USFWS 2020, 2022d). The species is threatened by habitat loss and degradation, herbicide use, logging at overwintering sites, urban development, drought, and climate change. A candidate conservation agreement for monarch butterfly on energy and transportation lands was finalized in 2020 (USFWS 2020).

This species has been recorded within 5 miles of the project area (Arizona Game and Fish Department [AGFD] 2022). The project area contains suitable foraging and breeding habitat for monarch butterfly. Multiple species of flowering plants that could provide nectar for foraging were observed within the project area and surrounding vicinity during the field reconnaissance survey. A small population of fringed twinevine, a species of milkweed that the monarch can use for breeding, is present within an approximately 10 × 10-foot area along the wash within the project area.

3.5.2.2. ENVIRONMENTAL CONSEQUENCES

3.5.2.2.1. No Action Alternative

The no action alternative would not impact listed threatened, endangered, candidate, or proposed species because project construction would not occur. The habitat would not be altered, and current land use would continue.

3.5.2.2.2. Proposed Action

Construction of the Proposed Action would result in the disturbance of up to 355 acres of potential foraging habitat and a small area of breeding habitat for the monarch butterfly. During the construction phase of the project, construction activities and increased vehicle use in the area could result in direct mortality of individuals via crushing by construction equipment or vehicle strikes, if monarch butterfly or larvae are present in the project area.

Up to 14 acres of suitable foraging habitat would be replaced by project infrastructure and roads for the operational life of the project. Presence of suitable monarch breeding habitat within the project area is limited to an area within the existing wash; as surface-disturbing activities within the wash would be limited to construction of an access road, the potential for removal of this habitat would be limited. Approximately 341 acres would be actively maintained by mowing vegetation or the application of herbicides as necessary to control vegetation growth, which may reduce availability of nectar resources if mowing occurs during the flowering period. Individual butterflies or larvae may be injured or crushed by mowing equipment. Impacts during site decommissioning would be similar to construction.

Given the limited area and location (within a wash that would be largely avoided) of suitable breeding habitat, the abundance of suitable foraging habitat for the species in the project vicinity, implementation of avoidance and mitigation measures, and the low likelihood for collisions with work vehicles, the Proposed Action may impact individuals but is not likely to result in a trend toward federal listing or loss of viability for the species.

3.5.2.3. AVOIDANCE AND MINIMIZATION MEASURES

To reduce impacts to the monarch butterfly, vegetation will be maintained as necessary to prevent risk of fire and/or overshadowing of solar panels. Mowing will be timed to avoid removal of nectar resources (flowering plants), as feasible. The use of herbicides and pesticides will be timed for when pollinators are not actively foraging (i.e., during evening or at night) and the application of bee-toxic pesticides during bloom will be avoided, if feasible. Herbicides and pesticides will be reviewed/approved by the applicator and applicators will check wind conditions or other weather parameters prior to application to prevent drift. The use of herbicides and pesticides will be timed for when pollinators are not actively foraging (i.e., during evening or at night). Low speed limits will be posted on access roads within the project area, which would limit the potential for collisions. During project decommissioning, milkweed species native to the project area will be included in the seed mixes used for revegetation.

3.5.3. *Gila River Indian Community Native Plant Ordinance and Culturally Significant Flora and Fauna*

The GRIC Native Plant Law (GR-03-90 [Codified as Title 15, Chapter 3]) prohibits named protected plants from, “being dug up, collected, and/or removed from their original growing sites, or destroyed or mutilated, except by permit approved by the Natural Resources Standing Committee of the Gila River Community Tribal Council.” The ordinance lists 20 protected plant species, five plant families, and two plant genera as protected. Plants that are protected under the Arizona Native Plant Law and the federal ESA are also included in this ordinance. Rare, unique, or sensitive plant assemblages (e.g., mesquite bosques) and undisturbed natural areas are also protected. In addition to protecting native plants, this ordinance sets guidelines for the collection and use of fuelwood within the Community. Fuelwood collection is exclusively for Community members, and the sale of fuelwood to non-tribal members off the reservation is prohibited.

In 2021, the Huhugam Heritage Center Language Program compiled a list of culturally significant flora and fauna for the Lone Butte Solar project area (Huhugam Heritage Center Language Program 2021).

3.5.3.1. AFFECTED ENVIRONMENT

Eleven culturally significant flora and fauna were observed in the project area during the field reconnaissance survey: three species listed under the GRIC Native Plant Law (velvet mesquite, wolfberry, and California barrel cactus) and eight species listed as culturally significant fauna (desert cottontail, coyote, black-throated sparrow, red-tailed hawk, mourning dove, white-winged dove, Gambel’s quail, and house finch). No sensitive plant assemblages are present in the project area.

3.5.3.2. ENVIRONMENTAL CONSEQUENCES

3.5.3.2.1. No Action Alternative

The no action alternative would not impact protected plant species, sensitive plant assemblages, undisturbed natural areas, or culturally significant flora and fauna because project construction would not occur. The habitat would not be altered, and current land use would continue.

3.5.3.2.2. Proposed Action

The Proposed Action would remove or disturb all velvet mesquite and wolfberry, and some California barrel cactus, from the 355 acres of project area during construction. As required by the Community Native Plant Ordinance, all suitable California barrel cactus at risk of destruction would be salvaged prior

to construction. In accordance with GRIC Native Plant Ordinance, individuals identified as suitable for salvage would be translocated from the project area to other areas in the Community which will be outlined in the site-specific Native Plant Salvage Plan. Therefore, the Proposed Action would not result in the destruction of viable California barrel cacti. Mesquite would be removed or mowed during construction, and the wood would be made available to the Community. Wolfberry within the project area would be removed or mowed during construction. The Proposed Action would result in impacts to mesquite and wolfberry.

Disturbance or removal of vegetation for the 355 acres of the project area would have minimal impact to desert cottontail as the project area is a significant amount of the native range for the species and would not substantially reduce forage potential in the area. Impacts to coyotes would be similar to the desert cottontail. Construction activities resulting in vegetation disturbance or removal of vegetation within the project area would have a moderate impact to avian species in the area including red-tailed hawk, black-throated sparrow, mourning dove, white-winged dove, Gambel's quail, and house finch. These impacts would result from reduced nesting and foraging potential within the project area. However, as these avian species have large natural ranges, impacts are not expected to be severe or long-term.

During decommissioning, impacts to remaining mesquite and wolfberry would be similar to those during construction. Impacts to culturally significant fauna would be similar to those described for general wildlife in Section 3.5.1.

3.5.3.3. AVOIDANCE AND MINIMIZATION MEASURES

Avoidance and minimization measures are not proposed.

3.5.4. *Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act*

The Migratory Bird Treaty Act of 1918 (16 USC 703, et seq.) prohibits the taking, killing, possession, transportation and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the U.S. Department of the Interior.

The Bald and Golden Eagle Protection Act of 1940 (16 USC 668-668d and 50 CFR 22.26) and its implementing regulations, provides additional protection to bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) such that it is unlawful to take an eagle. In this statute, the definition of "take" is to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, or molest, or disturb." The term "disturb" is defined in 50 CFR 22.3 as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best available scientific information available: (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

3.5.4.1. AFFECTED ENVIRONMENT

Multiple bird species, including the six observed during the field reconnaissance survey, may use this area for foraging, nesting, or migration. During the field reconnaissance survey, no active migratory bird nests were observed in the project area; however, several inactive nests were observed in trees on-site and bird breeding likely occurs. No bald or golden eagle nests were identified during the field reconnaissance survey.

The project-specific Information for Planning and Consultation report identified bald eagle, Bendire's thrasher (*Toxostoma bendirei*), Costa's hummingbird (*Calypte costae*), Gila woodpecker (*Melanerpes*

uropygialis), gilded flicker (*Colaptes chrysoides*), western grebe (*Aechmophorus occidentalis*), and willet (*Tringa semipalmata*) as Birds of Conservation Concern that may occur within the project area (USFWS 2022e) (see Appendix D). The project area does not contain suitable habitat for species occurrence for bald eagle, Gila woodpecker, western grebe, or willet. Bendire's thrasher, gilded flicker, and Costa's hummingbird may occur in the area. No critical areas for shorebirds or important bird use areas are present within the project area. The nearest Important Bird Area is the Lower Salt and Gila Rivers Ecosystem Important Bird Area, approximately 18 miles northwest of the project area (Audubon Society 2022).

3.5.4.2. ENVIRONMENTAL CONSEQUENCES

3.5.4.2.1. No Action Alternative

The no action alternative would not impact migratory birds because project construction would not occur. Migratory bird individuals and habitat within the project area would not be disturbed or altered by project activities.

3.5.4.2.2. Proposed Action

The Proposed Action would disturb up to 355 acres of habitat for migratory birds. Other impacts to migratory birds during construction include disturbance associated with noise and human activity during construction, which may cause birds to leave or avoid the immediate vicinity of disturbance. Temporary construction effects include displacement of individuals from disturbed areas and adjacent habitats (i.e., avoidance). Displaced individuals could be forced into neighboring territories, where they would compete with already established individuals for resources. Potential impacts from construction activities may also include nest or burrow abandonment or loss of eggs or young if construction occurs during the migratory bird breeding season (generally mid-February through August). Direct mortality may also result from construction equipment or collisions with vehicles.

During operations, approximately 14 acres of suitable habitat for migratory birds would be replaced by infrastructure for the life of the project, and 341 acres would be subject to vegetation maintenance via mowing or use of herbicides and pesticides, which may reduce available resources and nesting substrate within the project footprint. In addition, facility lighting may disturb or confuse birds moving through the area.

Although there is no raptor nesting habitat within the project area, raptors may avoid foraging in or traveling through the project area, particularly during construction, due to the presence of human activity and equipment. Project-related alterations of prey habitat and presence of solar panels and other infrastructure within the project area may alter the distribution and availability of prey resources for the life of the project.

3.5.4.3. AVOIDANCE AND MINIMIZATION MEASURES

- Vegetation clearing will be conducted during the non-breeding bird season. If the bird breeding season cannot be avoided, bird nest surveys will be conducted in areas to be cleared and non-disturbance areas will be flagged to avoid destroying active nests.
- Impacts on burrowing owls will be avoided by following AGFD's *Burrowing Owl Project Clearance Guidance for Landowners* (2009), to survey for burrowing owls and to institute the appropriate conservation measures for burrowing owls that occupy burrows in the construction footprint.

- Facilities will be designed to discourage their use as perching or nesting substrates by birds, including designing the aboveground transmission line to follow established Avian Power Line Interaction Committee guidelines to minimize bird collisions and avoid electrocution of raptors.

3.5.5. Invasive Species

Invasive species are non-native species that, if introduced to an ecosystem, are likely to cause economic or environmental harm (Invasive Species Advisory Council 2006). A noxious weed is any plant designated by federal, state, or local government officials as injurious to public health, agriculture, recreation, wildlife, or property. The ADA defines three classes of noxious weeds under Arizona Administrative Code R3-4-245 (ADA 2020). Class A noxious weeds are plant species that are either unknown or have a limited distribution in the state. Class B noxious weeds are plant species known to occur in the state, but in a limited distribution. The final category is Class C noxious weeds, which are species widespread in their distribution, but that may be recommended for active control. Both Class A and B species are high-priority pests for quarantine, control, or mitigation.

3.5.5.1. AFFECTED ENVIRONMENT

No Class A or B noxious plant species were observed in the project area during the field reconnaissance survey. Puncturevine was observed within the project area and is listed as a Class C noxious weed. Other non-native plant species observed in the project area include prickly Russian thistle (*Salsola tragus*), little hogweed (*Portulaca oleracea*), and bermudagrass (*Cynodon dactylon*).

3.5.5.2. ENVIRONMENTAL CONSEQUENCES

3.5.5.2.1. No Action Alternative

The no action alternative would not impact invasive species. Existing populations of invasive plant species would continue to persist, subject to other non-project-related management efforts.

3.5.5.2.2. Proposed Action

The Proposed Action would increase the risk of invasive species due to ground disturbance and increased numbers of vehicles driving through the project area. Noxious weeds, which often colonize along the edges of surface disturbance, could spread to non-disturbed adjacent habitats, degrading habitat quality and decreasing the amount of native forage. Puncturevine is a noxious weed that is known to be present within the project area and presence of construction equipment and vehicles along with surface-disturbing activities may contribute to an increased risk of spread within the project area. Puncturevine is an annual plant species that primarily spreads by its caltrop-like seeds that get stuck on clothing, shoes, and on vehicle tires (University of California Statewide Integrated Pest Management Program 2006). Other non-native species known to be present may also spread via similar means. In addition, other non-native species may be introduced into the project area by construction equipment or vehicles. Implementation of a vegetation management plan and best management practices, which include washing of construction equipment prior to entering the site, would reduce the potential for introduction or spread of noxious weeds and other non-native species.

After the construction phase of the project, the spread of invasive species would become less likely with the decreased disturbance and vehicle use. New populations that were established during construction may continue to thrive and reproduce. Herbicides would be used to control vegetation, including invasive species. The herbicides would be reviewed and applied by a licensed applicator. Impacts during site decommissioning would be similar to the site construction phase.

3.5.5.3. AVOIDANCE AND MINIMIZATION MEASURES

- Before arriving at or leaving the project site, equipment will be inspected and visible plants, seeds, mud, and dirt clods will be removed. While on the site and moving to and from different areas, reasonable efforts will be made to remove visible plants, seeds, mud, and dirt clods.
- Construction materials imported to the site, including any soil, erosion control products, and seed mixes, if any, shall be free of invasive species in accordance with State of Arizona Administrative Code (3 A.A.C. 4).
- During operations, invasive species will be managed to avoid establishment and spread on-site in accordance with 3 A.A.C. 4.
- Only EPA-registered pesticides and/or herbicides that also comply with state and local regulations will be used. Pesticide use will be limited to nonpersistent, immobile pesticides and will only be applied in accordance with label and application permit directions and stipulations for terrestrial applications.

3.6. Cultural Resources

According to Section 106 of the NHPA, as amended (54 USC 300101 et seq.), and its implementing regulations (36 CFR 800), federal agencies are required to consider the effects of federal undertakings on historic properties. The Advisory Council on Historic Preservation has defined a federal undertaking in 54 USC 300320 as a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; those requiring a federal permit, license or approval; and those subject to state or local regulation administered pursuant to a delegation or approval by a federal agency. Additionally, a historic property is a cultural resources (prehistoric or historic object, structure, buildings, site, or district) that is eligible for inclusion in or listed on the National Register of Historic Places (NRHP) (36 CFR 800.16(i)).

For the purposes of this EA and the Section 106 process, the direct area of potential effects (APE) for cultural resources is defined as the project area, given that ground disturbance as a result of the project will only occur within that area; however, the project footprint will ultimately be no larger than 355 acres in size. Visual effects on cultural resources were evaluated within the calculated viewshed of the Proposed Action (see Section 3.8); additional information regarding visual effects is described below.

3.6.1. Historic and Archaeological Resources

3.6.1.1. AFFECTED ENVIRONMENT

The Community's Cultural Resource Management Program (CRMP) completed a Class I records review for the Proposed Action that identified the potential for cultural resources to be within the project site (Woodson 2021). This records review is an update from a 2016 CRMP Class I inventory and 2017 Class III pedestrian survey (Huttick 2017; Woodson 2016). The 2017 Class III survey was completed on 124.44 acres of the APE that had not been previously surveyed to modern standards and did not identify significant cultural remains within that portion of the APE (Huttick 2017).

The updated 2021 Class I records review identified that the current APE had been entirely covered by previous cultural resources survey projects. These prior surveys identified 11 archaeological sites within 0.25 mile of the APE, two of which intersect the APE. These two sites have been previously determined not eligible for listing in the NHRP and are therefore not considered historic properties. Three archaeological sites are immediately adjacent to the current APE.

3.6.2. Traditional Cultural Places

Traditional Cultural Places (TCPs) can be considered for inclusion in the NRHP based on their traditional cultural significance. “Traditional” in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations. A TCP is eligible for the NRHP when it is associated with cultural beliefs or practices that: a) are rooted in that community’s history, and b) are important to maintaining the cultural identity of the community. A TCP must also be classified as either a building, site, district, structure, or object to be considered for eligibility in the NRHP.

3.6.2.1. AFFECTED ENVIRONMENT

The Class I records review conducted by the CRMP did not identify any TCPs within the project area (Woodson 2021).

3.6.3. Environmental Consequences

3.6.3.1. NO ACTION ALTERNATIVE

The No Action Alternative would not impact cultural resources or TCPs because the Proposed Action would not be constructed. Cultural resources within the project area would not be disturbed or altered since there would be no project activities and there are no known activities planned which would impact the project area.

3.6.3.2. PROPOSED ACTION

No historic properties (NRHP-eligible or NRHP-listed resources) or TCPs were identified within the project area. No historic properties (NRHP-eligible or NRHP-listed resources) or TCPs were identified within the project area. The two sites identified in the APE are multicomponent artifact scatters that have been determined by RUS as not eligible for listing in the NRHP and the GRIC Tribal Historic Preservation Officer (THPO) has concurred with this determination. These two sites will be destroyed during construction activities. The CRMP recommended that no further cultural resource investigations are necessary prior to project construction.

Three archaeological sites are immediately adjacent to the current APE. The LUAR (see Appendix A) and CRMP recommended avoidance of construction activities for the three adjacent sites, including surrounding the solar plant facility with a fence to provide protection for these sites. Additionally, in the event that any previously unknown cultural resources are encountered during the proposed undertaking, all work must immediately cease and the person in charge must contact the GRIC-CRMP office and RUS for further consultation. GRIC THPO concurred with this finding, provided that the recommendations are followed (Appendix E). With the implementation of the avoidance and minimization measures outlined in the LUAR (avoidance and fencing of the three cultural sites), the Proposed Action will not impact historic properties.

Considering the APE for the Proposed Action is entirely within GRIC tribal land and the GRIC THPO has assumed the responsibilities of the SHPO for Section 106 on tribal lands under Section 101(d)(2) of the NHPA (54 USC § 302702), RUS conducted consultation with the GRIC THPO. In addition to consulting the GRIC THPO, RUS consulted with other Indian tribes with interest in the area. RUS initiated Section 106 consultation with the following tribes: Ak-Chin Indian Community, Hopi Tribe of Arizona, Pascua Yaqui Tribe (PYT), Pueblo of Zuni, Salt River Pima-Maricopa Indian Community of the Salt River Reservation, Arizona (SRP-MIC), Tohono O’odham Nation of Arizona (TON), Tonto Apache

Tribe, White Mountain Apache Tribe of the Fort Apache Reservation, Arizona (WMAT), and Yavapai Apache Nation. Section 106 consultation letters were sent to the tribes on November 6, 2023. Responses were received from SRPMIC, TON, WMAT, and PYT. None of the responding parties objected to the finding of effect. RUS has determined the Proposed Action will result in a finding of No Adverse Effect in accordance with 36 CFR § 800.5(b). The GRIC THPO has concurred with this finding. All correspondence associated with Section 106 consultation is on file at RUS.

3.6.3.3. AVOIDANCE AND MINIMIZATION MEASURES

In order to avoid known historic properties, the APE for the Proposed Action will be surrounded with a fence that will provide adequate protection for the three adjacent archaeological sites. The fence will provide a buffer between the avoidance area that is adjacent to the APE and the actual site boundary which will serve as a setback. In the event that any previously unknown cultural resources are encountered during the proposed undertaking, all work will immediately cease within 50 feet of the encountered cultural resource, the area will be roped off, and Lone Butte Solar will contact the Community's CRMP for further consultation.

3.7. Aesthetics and Visual Resources

Aesthetics and *visual resources* (i.e., visual resources) are terms that refer to the physical features that make up the visible landscape (features such as land, water, vegetation, topography, and human-made features such as buildings, roads, utilities, and structures) as well as the interpretation of viewers to those features. *Scenery* is defined as a continuous unit of land comprising harmonizing features that result in and exhibit a particular visual character. This EA evaluates these topics to consider whether changes to scenery due to the construction and operation of the Proposed Action are compatible with human activities and expectations of the landscape.

Landscape character is landscape features, naturally appearing or otherwise, that form the overall impression of the area (USDA 1971). Visual contrast typically results from contrast created between a Proposed Action and the existing landscape because of 1) landform modifications that are necessary to prepare an area for construction, 2) the removal of vegetation to construct and maintain facilities, and 3) the introduction of new aboveground facilities into the landscape. The visual quality of an area may be affected by such visual contrast. The analysis area for aesthetics and visual resources is the project area.

Section 1971.707 of *RD Instruction 1970-O* outlines the methods for conducting project-associated visual analyses (USDA 1970b). Specifically, this document details the process for inventorying intrinsic visual and aesthetic characteristics and assessing impacts to those characteristics, including from the viewer's perspective. Identifying the impacts to visual resources from project construction and operation followed two primary steps: 1) describing the existing visual character and inherent scenic quality and identifying locations where people commonly view the landscape, and 2) assessing the change to the landscape and the effects on views from key locations as a result of project construction and operation.

Systematic evaluation of the visual resources associated with the Proposed Action involved describing existing visual resources and assessing potential impacts to those resources based on the Bureau of Land Management's (BLM's) Visual Resource Management Program, which is widely used for a variety of projects and, with some modifications, has been applied successfully to projects on lands outside BLM jurisdiction. Therefore, RUS recommends the use of the BLM visual protocol methodology detailed in Section 1971.707 of *RD Instruction 1970-O* as an adequate visual analysis for proposed RUS-funded projects (USDA 1970b). Per that methodology, SWCA implemented concepts for contrast rating analysis as provided in BLM Manual H-8431, *Visual Resource Contrast Rating* (BLM 1986).

The contrast rating analysis method measures potential project-related changes to the landscape. The method allows for a level of objectivity and consistency in the process and reduces subjectivity associated with assessing landscape character and scenic quality impacts. SWCA evaluated the level of contrast between the project area and the existing landscape from each key observation point (KOP). This level of contrast determines the degree to which the Proposed Action would affect the intrinsic landscape character and, in turn, the scenic quality of the landscape. In the context of the Proposed Action, SWCA recorded the form, line, color, and texture associated with the landform, water, vegetation, and existing structures within and adjacent to the analysis area.

For the purposes of this analysis, an impact to visual resources could result if thresholds of visual resources impacts to sensitive viewers are exceeded as a result of the introduction of the project into the landscape. Table 4 defines the threshold of the visual resources impacts to sensitive viewers at KOPs and to the existing landscape’s scenic quality and landscape character and are referenced in the following impact summaries.

Table 4. Criteria for Assessing Level of Impacts on Visual Resources

Level of Contrast and Impacts	Contrast Perceived by Viewers	Magnitude of Change to Landscape Character and Scenic Quality
None	<ul style="list-style-type: none"> Project components would repeat elements and/or patterns common in the landscape. Project components would not be visually evident. 	<ul style="list-style-type: none"> The landscape would appear to be intact and would not attract attention. Project components would repeat form, line, color, texture, and/or scale common in the landscape and would not be visually evident (creating no contrast).
Weak	<ul style="list-style-type: none"> Project components would introduce elements and/or patterns common in the landscape that would be visually subordinate. Project components would create weak contrast compared with other features in the landscape. 	<ul style="list-style-type: none"> The landscape would be noticeably altered and begin to attract attention. Project components would introduce form, line, color, texture, and/or scale common in the landscape and would be visually subordinate (creating weak contrast).
Moderate	<ul style="list-style-type: none"> Project components would introduce elements and/or patterns not common in the landscape. Project components would be visually prominent in the landscape and would create moderate contrast compared with other features in the landscape. 	<ul style="list-style-type: none"> The landscape would appear substantially altered. Project components would introduce form, line, color, texture, and/or scale not common in the landscape and would be visually prominent in the landscape (creating moderate contrast). Project components would attract attention. Project components would begin to dominate the visual setting.
Strong	<ul style="list-style-type: none"> Project components would introduce elements and/or patterns that would be visually dominant and create strong contrast compared with other features in the landscape. 	<ul style="list-style-type: none"> The landscape would appear to be severely altered. Project components would introduce form, line, color, texture, and/or scale not common in the landscape and would be visually dominant in the landscape (creating strong contrast). Project components would demand attention. Project components would dominate the visual setting.

Environmental factors can influence the amount of visual contrast, dominance, and level of attraction introduced by project components. For this analysis, the factors considered and evaluated as part of the determination of the level of contrast from each KOP are visibility conditions, angle of view (relative viewer position and view orientation), duration of view (in time or distance), and scale and spatial relationship (degree of contrast) of the project (BLM 1986). SWCA did not consider changes in the visual setting as a result of variable atmospheric conditions and seasonal use differences as part of this analysis.

Visibility conditions refer to how people would view the project components (i.e., the arrays and associated infrastructure) in the landscape from KOPs, not whether the Proposed Action would be visible from KOPs. Assessing these conditions involves studying the relationship of the project components in the context of the landscape. The first condition is whether the project components would be predominantly skylined along the horizon line of a landform or backdropped against existing landforms.

The second condition is whether the views of project components would be predominantly unobstructed or obstructed as viewed from the KOP. The angle of observation from the KOP is another factor in determining whether viewers would see the project components along with an existing dominant feature in the landscape.

The duration of view is how long, in time or distance, viewers would see the project components from KOPs. For linear KOPs, the duration of view can be calculated in terms of time and distance by determining the total travel time (typically minutes) along the total distance (miles) of the platform from which viewers would see the project components. To calculate travel time, the posted speed was used as the average rate of speed (i.e., 45–55 miles per hour [mph] for paved roadways and 25 mph on unpaved roadways).

Considering scale and spatial relationship allows the evaluation of the degree of contrast between the Proposed Action components and the surrounding landscape when viewed from KOPs. Scale refers to the size of the project components relative to various landscape features. The larger the project components would appear, the less likely they would be to repeat the common elements and patterns in the surrounding landscape; that is, the project components would appear to dominate the landscape. The arrangement or spatial relationship of landscape features can affect the visual prominence of project components from KOPs. The amount of visual contrast created is directly related to the amount of attention an element draws in the landscape. For example, if the view from a platform is of a panoramic or expansive landscape, the project components would be less prominent (lower contrast), whereas if the view is of an enclosed or encircled landscape such as a narrow valley, the project components would be more prominent and would appear to dominate the landscape (higher contrast). For this analysis, SWCA assessed contrast by comparing the project infrastructure with the major features in the existing landscape.

Visual contrast rating analysis also requires consideration of the scenery and visual sensitivity associated with a given project area and pertinent sensitive viewer groups. The following sections describes these three aspects in relation to the analysis for this project.

The analysis area for visual resources encompasses a 5-mile radius from the center point of the project area and consists of the combined viewsheds of four KOPs (Figure 6). SWCA selected these KOPs based on their proximity to the project and because they reflect visually sensitive views of the analysis area. The visual analysis indicator is the degree of contrast in line, form, color, and texture from the introduction of project components as viewed from the KOPs during construction, O&M, decommissioning, and reclamation.

The primary impact-causing element of the Proposed Action is the construction and operation of the solar power-generating facility, the BESS (if constructed), and associated substation. This would introduce portable and permanent structures, heavy equipment, and vehicles into the viewshed of the area.

3.7.1. Affected Environment

3.7.1.1. SCENERY

The analysis area is located within the Sonoran Basin and Range Level III ecoregion, and more specifically, within the Arizona Upland/Eastern Sonoran Basins Level IV ecoregions (U.S. Department of the Interior 2014). The scenery of the analysis area is consistent with rural and agriculture-dominated landscapes in this region of central Arizona. Views from the project area are flat, open fallow fields and open desert within the analysis area, open desert beyond the analysis area to the east and south, panoramic views of the Estrella Mountains approximately 12 miles to the west, and the South Mountain Park and Preserve approximately 7 miles to the north. Human development within the analysis area is characterized as rural agriculture development and open land.

In addition to the above land uses, the analysis area also includes SR 347, West Riggs Road, South Maricopa Road, the Wild Horse Pass Commercial Complex, the Gila River Resort and Casino, the Huhugam Heritage Center, and the Lone Butte 69-kV Substation. The Lone Butte Substation is immediately adjacent to the Proposed Action (transmission line and interconnection) and includes existing infrastructure such as transformers and numerous transmission lines.

3.7.1.1.1. Viewer Groups

SWCA identified viewing locations representing places where the public could view the Proposed Action. The identification of KOP locations included a review of residences, travel routes, and public use areas within the analysis area to represent critical viewpoints, typical views in representative landscapes, and any special Proposed Action features. The level of concern for changes in the landscape, as viewed from KOPs, varies based on duration of view, volume of use, visual sensitivity, and if the viewing location has scenic or historic status. In general, views from residences, scenic roads, and public use areas would be more visually sensitive and include longer-duration views compared to views from low-use roads and industrial areas. These viewer groups, along with aerial photographs, topographic maps, and desktop investigations of the analysis area, were considered to determine the KOPs for the analysis.

Four KOPs were selected that represent typical viewing conditions from two sensitive viewing location types that provide prominent views of the analysis area (see Figure 6):

- **Public use areas (two KOPs)**—public use facilities including buildings and supporting structures
- **Vehicular travel routes (two KOPs)**—highways and roads used by origin/destination travelers, designated scenic or historic byways, and recreation destination roads (i.e., roads that provide access to designated recreation areas)

The following sections include descriptions of each KOP and the rationale for its selection.

Public Use areas

KOP 1, Wild Horse Pass Commercial Complex, is located approximately 1.75 miles north of the project area. This KOP was chosen due to its public use and close proximity to the Proposed Action. Views from Wild Horse Pass from recreational users are panoramic and open in nature and include views of the Sierra Estrella Mountains to the southwest and the South Mountain Park and Preserve to the northwest. This area is encompassed by human-made features including existing buildings, roads, and a golf course to impede views of the project area.

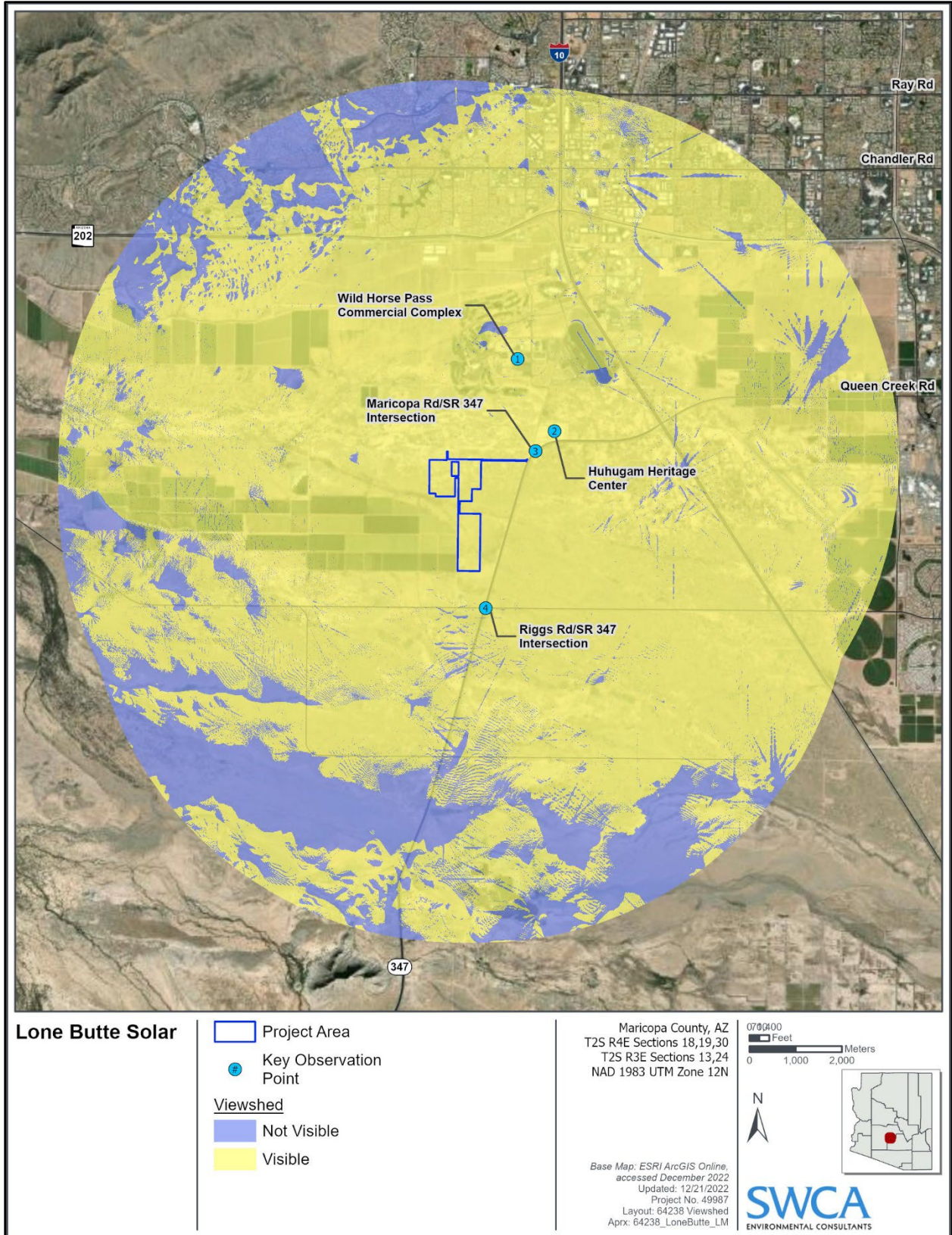


Figure 6. Lone Butte Solar Project viewshed analysis and KOP locations.

KOP 2, Huhugam Heritage Center is located approximately 1 mile northeast of the project area. This location was chosen due to its public use and close proximity to the Proposed Action. Views from the Huhugam Heritage Center are a mixture of panoramic and open in nature and include views of the Sierra Estrella Mountains to the southwest and the South Mountain Park and Preserve to the northwest. The area features few vegetative or topographical features that could impede views of the Proposed Action from the Heritage Center, however the public gathering space is encompassed by features within the Heritage Center.

Vehicular Travel Routes

KOP 3, Intersection of Arizona State Route 347 and South Maricopa Road, is located 0.75 miles northeast of the project area. Views from this location were chosen due to its travel volume from users and close proximity to the Proposed Action. Views from this location are panoramic and open in nature and include views of the Sierra Estrella Mountains to the southwest and the South Mountain Park and Preserve to the northwest.

KOP 4, Intersection of Arizona State Route 347 and West Riggs Road, is located 0.5 miles southeast of the project area. Views from this location were chosen due to its travel volume from users and close proximity to the project. Views from this location are panoramic and open in nature and include views of the Sierra Estrella Mountains to the southwest and the South Mountain Park and Preserve to the northwest.

3.7.2. Environmental Consequences

3.7.2.1. NO ACTION ALTERNATIVE

Under the no action alternative, the project would not be constructed, and there would be no impacts to visual or aesthetic resources.

3.7.2.2. PROPOSED ACTION

3.7.2.2.1. Construction Phase

Scenery

The Proposed Action would introduce an approximately 355-acre solar facility, associated infrastructure, and a 69-kV transmission line interconnection on existing areas of rural agricultural development and open desert. The Proposed Action would dominate the visual setting only for the duration of construction. Fugitive dust could pose a visual contrast. Therefore, it is anticipated that impacts would result from the introduction of project components during construction because these activities would dominate and change the existing landscape.

Sensitive Viewers

For all KOPs, construction activities would introduce new line, form, color, and texture to the surrounding scenery and these four selected sensitive viewing locations. Equipment, vehicles, and facility materials would introduce form, line, color, texture, and scale not currently in the landscape and would be subtle to dominant in the landscape.

KOP 1 WILD HORSE PASS COMMERCIAL COMPLEX:

The Proposed Action would be located approximately 1.75 miles to the south of this KOP. The introduction of construction equipment and ground disturbance would be visible from KOP 1. Topographical features and vegetation communities would serve as barriers and preclude perceivable visual impacts from construction.

KOP 2 HUHUGAM HERITAGE CENTER:

The Proposed Action would be located approximately 1 mile to the southwest of this KOP. The introduction of construction equipment and ground disturbance within the landscape would be visually dominant when viewed from KOP 2. Because a public gathering area is located in the middle of the facility, existing features would serve as barriers and preclude perceivable visual impacts from project construction.

KOP 3 ARIZONA STATE ROUTE 347 AND SOUTH MARICOPA ROAD:

The Proposed Action is located 0.75 mile to the southwest from the intersection of SR 347 and South Maricopa Road. The introduction of construction equipment and ground disturbance within the landscape would be visually dominant when viewed from KOP 3. Topographical features and vegetation communities would serve as barriers and preclude perceivable visual impacts from construction.

KOP 4 ARIZONA STATE ROUTE 347 AND WEST RIGGS ROAD:

The Proposed Action is located 0.5-mile northwest of the intersection of SR 347 and West Riggs Road. The introduction of construction equipment and ground disturbance within the landscape would be visually dominant when viewed from KOP 4. Topographical features and vegetation communities would serve as barriers and preclude perceivable visual impacts from construction.

3.7.2.2.2. Operations and Maintenance

Scenery

The Proposed Action would introduce an approximately 355-acre solar facility, associated infrastructure, and a 69-kV transmission line interconnection to an area containing fallow agricultural fields and open desert. The PV panels are expected to be 15-foot-tall, single-tracker arrays, and the interconnection infrastructure would consist of 80-foot-tall monopoles. The Proposed Action would introduce new form, line, color, and textures associated with the PV panels, solar trackers, and BESS. The PV panels would create visual contrast through their flat, geometric form and light to dark gray tones, and slightly reflective surfaces. These elements are not common in the existing landscape character. The BESS would introduce a to-be-determined amount of container units on up to 3 acres west of the project substation that are repetitive, rectangular, and light gray to white in color. The addition of the repetitive, vertical upright features associated with the solar trackers, facility fencing, and distributed BESS would attract attention in this flat, panoramic landscape and be visually prominent in the landscape. The 69-kV transmission interconnection would be similar in appearance to the existing transmission line and infrastructure. The intactness, unity, and vividness of the agrarian landscapes in the analysis area would be impacted because the change from fallow agricultural fields and open desert to PV panels would encroach on and begin to diminish the overall visual composition of the landscape's existing character.

Sensitive Viewers

KOP 1 WILD HORSE PASS COMMERCIAL COMPLEX:

Based on the overall distance from the KOP and the Proposed Action location in relation to the viewer, the Proposed Action would not be perceivable from this KOP due to the presence of existing vegetation and subtle rolling terrain. The PV panels would be visible from 1 mile away where not screened by vegetation. The PV panels would create visual contrast through their flat, geometric form, light to dark gray tones, and slightly reflective surfaces, and would introduce new features to the landscape and begin to attract attention from this location. The proposed solar arrays would introduce new lines, forms, colors, and textures to the scenery not common in the landscape. The transmission interconnection would be perceivable, but would be similar in form, line, color, and texture to the existing transmission line infrastructure. Therefore, it is anticipated that there would be weak visual contrast created by the Proposed Action within the existing landscape based on short, sporadic views blocked by vegetation, subtle rolling terrain, and human-made features from the Wild Horse Pass Commercial Complex.

KOP 2 HUHUGAM HERITAGE CENTER:

The PV panels would be visible from 1 mile away where not screened by vegetation. The PV panels would create visual contrast through their flat, geometric form, light to dark gray tones, and slightly reflective surfaces, and would introduce new features to the landscape and begin to attract attention from this location. The transmission interconnection would be perceivable, but would be similar in form, line, color, and texture to the existing transmission line infrastructure. Views from this KOP are mostly interaction within a closed site. Therefore, it is anticipated that there would be weak contrast compared to other features in the landscape based on short and sporadic views of the Proposed Action from public gathering areas.

KOP 3 ARIZONA STATE ROUTE 347 AND SOUTH MARICOPA ROAD:

The PV panels would be visible from the road where not screened by vegetation. The PV panels would create visual contrast through their flat, geometric form, light to dark gray tones, and slightly reflective surfaces, and would introduce new features to the landscape and begin to attract attention from this location. The transmission interconnection would be perceivable, but would be similar in form, line, color, and texture to the existing transmission line infrastructure. Therefore, it is anticipated that Proposed Action components would begin to attract attention and introduce elements/patterns that would be visually dominant and create moderate contrast, compared with other features in the landscape during short-duration views based on travel speeds.

KOP 4 ARIZONA STATE ROUTE 347 AND WEST RIGGS ROAD:

The PV panels would be visible from the road where not screened by vegetation. The PV panels would create visual contrast through their flat, geometric form, light to dark gray tones, and slightly reflective surfaces, and would introduce new features to the landscape and begin to attract attention from this location. The transmission interconnection would be perceivable, but would be similar in form, line, color, and texture to the existing transmission line infrastructure. Therefore, it is anticipated that Proposed Action components would begin to attract attention and introduce elements/patterns that would be visually dominant and create moderate contrast, compared with other features in the landscape during short-duration views based on travel speeds.

3.7.2.2.3. Decommissioning Phase

Scenery

Decommissioning would result in weak to strong visual impacts similar to construction of the Proposed Action. Workers would remove and dispose of or recycle the solar arrays and then reseed the area. Because of a difference in vegetation growth between unaffected and impacted vegetation communities, the project footprint may remain visible within the area until revegetation efforts reach the existing level of vegetation growth.

KOP 1 WILD HORSE PASS COMMERCIAL COMPLEX:

KOP 1 indicates that a weak degree of contrast between the existing landscape and decommissioning activities would be visible from that point due to the human-made features in the complex and proximity to the Proposed Action. Topographical features and vegetation communities would serve as barriers and preclude perceivable visual impact from decommissioning.

KOP 2 HUHUGAM HERITAGE CENTER:

KOP 2 indicates that a weak degree of contrast between the existing landscape and decommissioning activities would be visible from the public gathering spaces. Topographical features and vegetation communities would serve as barriers and preclude perceivable visual impact from decommissioning.

KOP 3 ARIZONA STATE ROUTE 347 AND SOUTH MARICOPA ROAD:

KOP 3 indicates that a strong degree of contrast between the existing landscape and decommissioning activities would be visible from the intersection due to the close proximity to the Proposed Action. Topographical features and vegetation communities would serve as barriers and preclude perceivable visual impact from decommissioning.

KOP 4 ARIZONA STATE ROUTE 347 AND WEST RIGGS ROAD:

KOP 4 indicates that a strong degree of contrast between the existing landscape and decommissioning activities would be visible from the intersection due to the close proximity to the Proposed Action. Topographical features and vegetation communities would serve as barriers and preclude perceivable visual impact from decommissioning.

3.7.2.3. AVOIDANCE AND MINIMIZATION MEASURES

- The minimum intensity lighting that meets safety criteria will be used.
- All permanent lighting (e.g., full cut-off), except for emergency lighting triggered by alarms, will be fully shielded and use low-sodium or LED lights.
- Lighting will be mounted so that no light is emitted above an imaginary horizontal plane through the fixture.
- Lighting control through timers with motion sensors will be implemented.

3.8. Air Quality

The Clean Air Act (42 USC 7401 et seq.) is a comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes the EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants.

The analysis area for air quality is the project area. Air quality in the project area is regulated by the GRIC Department of Environmental Quality under the Air Quality Program, which establishes air quality requirements for new and existing developments within the Community.

The atmospheric buildup of carbon dioxide and other greenhouse gases is largely the result of human activities, such as the burning of fossil fuels (EPA 2023b). Global carbon emissions from fossil fuels have significantly increased since 1900. In addition to carbon, combustion of fossil fuels also produces other air pollutants, such as nitrogen oxides, sulfur dioxide, volatile organic compounds, and heavy metals, which negatively affect human health, along with air and water quality.

Solar projects have positive long-term climate change benefits. Climate change refers to shifts in the Earth's long-term (decades to millennia) weather patterns due to changes in the amount of solar energy Earth receives and changes to the concentrations of greenhouse gases (GHGs) in the atmosphere. Arizona, like much of the desert Southwest is susceptible to increased summer temperatures, more intense heatwaves, and droughts, as well as increased wildfire activity. Solar projects, once completed, are not new sources of GHG emissions and will not add any long-term GHG emissions. This project allows for carbon-neutral energy to supply a growing region without further atmospheric pollution. Furthermore, solar projects require very limited amounts of water to operate compared to other energy sources and are built to withstand high temperatures, both features which provides resiliency in light of expected long-term climate change trends. As Arizona gets hotter and drier and adds more people, renewable energy projects like solar are vital for the continued growth and prosperity of the State, Pinal and Maricopa counties, and the Community.

3.8.1. Affected Environment

The project area is located in an area that is currently nonattainment for particulate matter smaller than 10 microns in diameter (PM₁₀) and maintenance for Carbon Monoxide (CO). The Phoenix nonattainment area for ozone is located north of the project area (ADEQ 2022).

The project area is subject to air pollutants from mobile sources that include vehicles that travel on public roads and/or heavy equipment operating in the vicinity of the project. Due to dissipation by wind, pollutants from these sources do not attain high enough concentrations to warrant measurement or to result in degradation to sensitive resources.

Visibility in the project vicinity is generally good but can occasionally be diminished by high winds, vehicle travel on nearby unpaved roads, or during periods of nearby agricultural cultivation, all of which disturb soils and cause localized airborne dust particles.

3.8.2. Environmental Consequences

3.8.2.1. NO ACTION ALTERNATIVE

Under the no action alternative, the solar facility would not be developed. No surface disturbance would occur, and air resources would not be affected. Climate change would continue under current trends.

3.8.2.2. PROPOSED ACTION

Emissions from the Proposed Action would consist of carbon monoxide, NO₂, PM₁₀, PM_{2.5}, SO₂, VOCs, and hazardous air pollutants. Emissions would predominantly occur during the short-term construction phase which would consist of heavy vehicles and equipment. Some emissions would also occur during the long-term operational phase, but to a lesser extent due to the decreased level of vehicle travel and ground-disturbing activities. Sources of emissions from the Proposed Action would include fugitive dust from vehicle travel on unpaved surfaces; vehicle exhaust emissions during construction, operation, and decommissioning; and windblown dust from disturbed areas. Project activities such as driving on dirt surfaces, mowing, grading, and clearing would loosen and disturb soil, potentially resulting in windblown or fugitive dust particles, which can contribute to PM₁₀ pollutants. The Proposed Action would temporarily impact visibility by creating dust during construction. Project-related activity impacts to air quality would be localized to the project area and vicinity as a result of implementing dust control measures.

Equipment would temporarily emit locally increased levels of criteria pollutants. Numerous vehicle trips, including passenger and heavy vehicles, would be necessary during construction, operations, and decommissioning of the Proposed Action. However, vehicle trips, particularly heavy vehicle trips, would be concentrated during construction, and vehicle traffic would decrease during the operations phase. Vehicle traffic may create temporary fugitive dust; however, a dust control plan would be implemented (see Appendix A) and would reduce the potential for fugitive dust to occur during the 11-month construction period. Localized impacts to air quality may occur due to emissions from vehicles associated with the Proposed Action, although, because the majority of the time these vehicles would be parked and not generating emissions, emissions would not contribute to regional NAAQS attainment.

Emissions have not been calculated on an annual basis for comparison with the de minimis level; however, as part of the Proposed Action, the proponent has committed to meeting de minimis levels of construction emissions. This would be a necessary step for the conformity analysis. BMPs would be used to ensure that construction of the project results in PM₁₀ less than 70 tons per year, which is the threshold for minor sources in the nonattainment area based on 49 CFR 93.153(b). The final construction schedule and construction management would reflect this commitment. Therefore, the Proposed Action would be a minor source of air emissions during both the short-term construction phase and the long-term operational phase, and further analysis under the general conformity rule is not necessary.

Once construction is completed the project would be an operational solar field and would include routine washing of mirrors and maintenance. Washing would utilize water and no additives or detergents will be required. Long-term emissions related to the operation and maintenance of the project would be minor.

The Proposed Action would not contribute PM₁₀ in an amount that would trigger federal General Conformity rules. Surface disturbance of up to 355 acres during initial construction and decommissioning activities (for the solar facility) would contribute to particulate matter and ozone pollution and could adversely impact air quality. Implementation of avoidance and minimization measures would reduce the potential for effects on air quality. Additionally, there may be positive, indirect effects on the environment as the solar energy replaces or reduces the use of other energy sources (U.S. Energy Information Administration 2022).

3.8.2.3. AVOIDANCE AND MINIMIZATION MEASURES

- Dust-causing activities during high wind periods will be restricted, as feasible.
- Stabilized rock will be installed at construction entrances/exits.

- Measures such as application of water and/or dust suppressants, reduction of vehicle speeds on unpaved roads, installation of gravel surfaces along roads, and laydown areas will be implemented, as feasible.
- Woody vegetation cleared from the site may be mulched and used for on-site dust suppression.
- Loads will be covered on vehicles that transport loose materials as they travel on public roads, dust suppressants will be applied to truck loads, and/or loads will be kept below the freeboard of the truck bed.
- Implementation of erosion control measures per the project's SWPPP.
- Machinery that has air-emission-control devices as required by local regulations or ordinances will be used.

3.9. Social Impact Assessment and Environmental Justice

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 1994), directs that federal programs, policies, and activities not have disproportionately high and adverse human health and environmental effects on minority and low-income populations. Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. The intent of this directive is that all communities and persons across the United States should enjoy the same degree of protection from environmental and health hazards and have equal access to the decision-making process and to have a healthy environment in which to live, learn, and work. Title VI of the Civil Rights Act of 1964 and related statutes ensure that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, national origin, age, sex, and disability.

The analysis in this EA follows guidelines from the Council on Environmental Quality (CEQ), Environmental Justice Guidance under the National Environmental Policy Act (CEQ 1997).

The CEQ guidelines state that for low-income populations, the “populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census Current Population Reports, Series P-60 on Income and Poverty.” For minority populations, these should be identified where “(a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis” (CEQ 1997). Data from the U.S. Census Bureau and the EPA's Environmental Justice Mapping and Screening Tool were used to confirm the presence of low-income and minority populations in the analysis area.

The analysis area for socioeconomic and environmental justice is the Gila River Indian Community, because the project area is located within the Community, and the two Census Block Groups 040139411001 and 040139410002 which include the project area. Impact indicators for socioeconomic impacts include employment opportunities, dust and vehicle emissions, and noise during construction; as well as potential benefits to infrastructure and public services, and tax revenue.

3.9.1. Affected Environment

3.9.1.1. COMMUNITY DEMOGRAPHICS

The demographic data used in this analysis are derived from the 2000, 2010, and 2020 U.S. Census data. As with other communities throughout Arizona, population growth within the Community has grown over time. The population of the Community in 2000 was 10,832; in 2010, the population had grown to 11,712, an increase of 0.75%. The 2020 U.S. Census showed the total Community population to be 14,053, which is a 1.6% increase since 2010. Table 5 offers comparative details on population growth in the Community compared with the growth experienced in other nearby regional populations (U.S. Census Bureau 2022a).

Table 5. Decennial Census Data and Population Change from 2000 to 2020

Location	Total Population 2000	Percent Change (2000-2010)	Total Population 2010	Percent Change (2010-2020)	Total Population 2020
State of Arizona	5,130,632	+19.7%	6,392,017	+10.6%	7,151,502
Maricopa County	3,072,149	+19.5%	3,817,117	+13.6%	4,420,568
Pinal County	179,727	+52.1%	375,770	+11.6%	425,264
Gila River Indian Community	10,832	+0.75%	11,712	+1.6%	14,053

Source: U.S. Census Bureau Profile of General Demographic Characteristics, 2000, 2010, and 2020 (DP1) (U.S. Census Bureau 2022a).

The median age of Community residents is 29.7 years, with an average household size of 3.5 individuals. The percentage of males and females is about the same (51% and 49%, respectively). Approximately 38.1% of Community residents over 25 years of age have a high school education, with 5.3% having a bachelor’s degree, and 1.4% having earned a graduate or professional degree (U.S. Census Bureau 2022b).

The employment rate within the Community for working-age adults (16 to 65 years old) participating in the labor force is 36.7% with an unemployment rate of 12.9%. Approximately 57.9% of working-age adults are not in the labor force. Occupations of employed Community members primarily include management, business, science, and art (24.3%), service (33.8%), sales and office (18.7%), natural resources, construction, and maintenance (10.5%), and production, transportation, and material moving (12.7%). The median and mean household income estimates are \$25,315 and \$38,409, respectively, with a per-capita income of \$12,454. The data show that 34.1% of families within the Community are living below poverty level, where poverty for a family of three individuals would be \$21,960 (Table 6) (U.S. Census Bureau 2022b).

3.9.1.2. ENVIRONMENTAL JUSTICE

For this analysis, the Community and the State of Arizona, as well as neighboring Maricopa County and Pinal County, were compared to assess the significance of low-income and minority populations within the Community (see Table 6) (U.S. Census Bureau 2022b). The project area occurs in Block Groups 040136411001 and 040139411002. These block groups each have comparatively high levels of unemployment and are considered low income compared to the rest of the Community, the State of Arizona and neighboring Pinal and Maricopa Counties. Due to the analysis area being located on tribal lands and the Gila River Indian Community being a federally recognized Indian Tribe, the Community is therefore considered a minority population protected by EO 12898. Therefore, populations protected by EO 12898 are present within the analysis area.

Table 6. Population, Income, and Employment Data

Location	Total Population	Minority Population (% Non-White)	Percentage Families below Poverty Level	Unemployment (%)	Disabled Population (%)	Elderly Population (%)
State of Arizona	7,174,064	19.8	10.1	5.8	13.2	17.6
Maricopa County	4,412,779	19.7	9.1	5.1	11.4	15.2
Pinal County	447,559	16.9	9.0	7.1	16.1	20.5
Gila River Indian Community	11,608	91.9	34.1	12.9	15.8	9.4
Gila River Indian Community (Block Group 040139411001)	19	100	89	0	Not Available	0
Gila River Indian Community (Block Group 040139410002)	14	64	86	67	Not Available	14

Source: U.S. Census Bureau (2022b:Tables DP02, DP03, DP05, and S1702) and EPA Environmental Justice Mapping and Screening Tool for Block groups: 040139411001 and 040139410002 (EPA 2023c).

3.9.1.3. COMMUNITY FACILITIES AND SERVICES

GRICUA operates the Lone Butte Substation in the project area and surrounding, adjacent power lines; and the project would connect into the power grid here. No other Community infrastructure exists. GRIC Public Works operates a 12-inch water main, located about 1 mile east along the west side of SR 347, and an 8-inch sanitary sewer main, located 0.8 mile north along the south side of Koli/East Queen Creek Road.

Existing public services available within the project area include the Community Fire Department and the Emergency Medical Services Department, found about 1.4 miles northeast of the project site near Wild Horse Pass Casino. Residents and residential properties within the vicinity of the project area are served by the Gila River Police Department, which provides public safety services within the Gila River Indian Community. There are several fire departments and hospitals within a 20-mile radius of the project area, mostly concentrated in the Phoenix metropolitan area. The closest fire department to the project area is the Chandler Fire Department Station No. 5, which is approximately 6.4 miles east of the project area’s entrance at Ocotillo Road. The nearest emergency room is at the Arizona General Hospital Ahwatukee, approximately 3.8 miles north of the project area.

3.9.2. Environmental Consequences

3.9.2.1. NO ACTION ALTERNATIVE

The no action alternative would not result in social or environmental justice impacts to the Community because project construction would not occur. Existing conditions would continue to persist, subject to other non-project-related actions.

3.9.2.2. PROPOSED ACTION

3.9.2.2.1. Social Impacts

The Proposed Action would entail the construction of a new solar facility on vacant land. Operations at the proposed solar facility would not displace existing residents or businesses and are not anticipated to induce geographic population shifts. Resources evaluated in this document, including air quality, noise, and transportation, would experience short-term impacts during construction resulting in impacts to low-

income or minority populations. However, these impacts would cease following construction and no long-term impacts are anticipated.

The construction labor force would be temporary and sourced from within the Community and from other local contractors, resulting in no changes to Community demographics. Therefore, the Proposed Action would not affect demographic trends or change the local or regional identity.

GRICUA operates the Lone Butte Substation and surrounding, adjacent power lines; and the project would connect into the power grid here. On-site impacts to public utilities would include use of Community water supply, sanitary sewer and wastewater treatment system, overhead electric power, and communications; however, existing capacity is anticipated to be able to accommodate project-related needs, and no impacts to existing services are expected.

The Proposed Action would overall be beneficial to public services by providing tax revenue to the Community to help fund future public services.

3.9.2.2.2. Environmental Justice

The Community and the corresponding Block Groups associated with the project area meet the CEQ and EPA definitions of a minority or low-income population. The impacts to resources evaluated in this EA that could indirectly affect the Community (such as visual resources, air quality, and vegetation) would be largely restricted to the 11-month construction period. Overall, the Proposed Action would benefit minority and low-income populations by supporting the Community's plans and goals to develop renewable energy sources and reduce dependence on fossil fuels. The Proposed Action would reduce emissions associated with non-renewable power generation and provide tax revenue to the Community to help fund future Community projects.

3.9.2.2.3. Community Facilities and Services

For the purposes of evaluating impacts to existing Community infrastructure, this analysis assumes that all off-site utility connections required by the Proposed Action would occur within existing easements and rights-of-way set aside for utility uses that have been previously disturbed, or would be disturbed related to project construction. On-site impacts to public utilities would include use of Community water supply, sanitary sewer and wastewater treatment system, overhead electric power, and communications; however, existing capacity is anticipated to be able to accommodate project-related needs, and no long-term impacts to existing services are expected.

The Proposed Action would rely on Community public services, such as Fire, Emergency Medical Services, and Police, in emergency situations during construction, operations, and decommissioning. The Proposed Action would only use these services in the case of an emergency, and with implementation of BMPs and design features, it is not expected that the public services would be overwhelmed or taxed beyond current capacity and no long-term impacts are anticipated. The Proposed Action would overall be beneficial to public services by providing tax revenue to the Community to help fund future public services.

3.9.2.3. AVOIDANCE AND MINIMIZATION MEASURES

Avoidance and minimization measures are not proposed.

3.10. Noise

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity and that interferes with or disrupts normal activities. The response of individuals to similar noise events is diverse and influenced by the type of noise, the perceived importance of the noise and its appropriateness in the setting, the time of day and the type of activity during which the noise occurs, and the sensitivity of the individual. Community sound levels are generally presented in terms of A-weighted decibels (dBA). Table 7 presents A-weighted sound levels and the general subjective responses associated with common sources of noise in the physical environment. The analysis area for noise is the project area.

Table 7. Typical Sound Levels Measured in the Environment and Industry

Noise Source at a Given Distance	Sound Level (dBA)	Qualitative Description
Carrier deck jet operation	140	–
Civil defense siren (100 feet)	130	Pain threshold
Jet takeoff (200 feet)	120	Deafening
Auto horn (3 feet)	110	Maximum vocal effort
Pile driver (50 feet)		
Rock music concert environment		
Jet takeoff (100 feet)	100	–
Shout (0.5 foot)		
Ambulance siren (100 feet)		
Newspaper press (5 feet)		
Power lawn mower (3 feet)		
Heavy truck (50 feet)	90	Very loud/annoying; hearing damage (8-hour, continuous exposure)
Power mower		
Motorcycle (25 feet)		
Propeller plane flyover (1,000 feet)		
Pneumatic drill (50 feet)	80	Very loud
Garbage disposal (3 feet)		
High urban environment		
Passenger car, 65 mph (25 feet)	70	Loud/intrusive (telephone use difficult)
Living room stereo (15 feet)		
Vacuum cleaner (3 feet)		
Air conditioning unit (20 feet)	60	–
Human voice (3 feet)		
Department store environment		
Light auto traffic (50 feet)	50	Moderate/Quiet
Residential air conditioner (50 feet)		
Private business office environment		
Living room/bedroom bird calls (distant)	40	–
Library soft whisper (5 feet)	30	Very quiet
Quiet bedroom environment		
Broadcasting/recording studio	20	Faint
–	10	Just audible
–	0	Threshold of human audibility

Source: Adapted from Table E of *Assessing and Mitigating Noise Impacts* (New York Department of Environmental Conservation 2001).

As a result of the Noise Control Act of 1972, the EPA developed standards for noise levels under various conditions that would protect public health and welfare with an adequate margin of safety. The EPA determined that outdoor day-night average sound levels (Ldn) less than or equal to 55 dBA are sufficient to protect public health and welfare in residential areas and other places where quiet is a basis for use (EPA 1974). The EPA has identified an Ldn of 55 dBA as the level below which no adverse impact occurs. An Ldn of 65 dBA represents a compromise between community impact and the need for construction. As such, that level is commonly used for noise planning purposes (EPA 1974).

Sound propagation, or how sound travels, is affected by terrain and the elevation of the receptor relative to the noise source. From level ground, noise travels in a straight path between the source and receptor. Noise-sensitive receptors include residences, schools, churches, hotels, and libraries and include land uses associated with human activities that are particularly sensitive to noise. Breaking the line of sight between the receptor and the noise source can affect noise levels; examples include a traffic noise source at a certain elevation and a receptor at a higher elevation and vice versa. Calculating the sound level at receptor locations requires the use of the inverse square rule whereby sound is attenuated over distance. Again, each doubling of the distance from the source of a noise decreases the sound pressure level by 6 dBA at distances of more than 50 feet (New York Department of Environmental Conservation 2001).

3.10.1. Affected Environment

The project area is in a rural area of the Community, outside of Phoenix/Chandler in Maricopa County. The closest sensitive receptors to the project area are residences at Lone Butte Ranch, 3.6 miles to the west of the project area. The project area is undeveloped (aside from remnants of past agricultural use) and nearby developments include croplands; overhead and underground utility corridors; SR 347, West Riggs Road, and 40th Street; GRICUA Lone Butte Substation; and Revolution Industrial. These features are not considered sensitive noise receptors. Ambient noise surrounding the project area consists predominantly of rural or natural sounds and human-made noise from traffic along roads, activities at Revolution Industrial, and seasonal crop cultivation in adjacent areas.

In rural areas, typical outdoor Ldn values range between 35 and 50 dBA (EPA 1974), from very quiet to moderately quiet (see Table 7). For the purposes of this EA, the ambient noise level of the project area is assumed to fall within this range.

3.10.2. Environmental Consequences

3.10.2.1. NO ACTION ALTERNATIVE

The no action alternative would not impact noise levels or noise-sensitive receptors, as there would not be additional development or activities to generate additional traffic or construction noise beyond current levels.

3.10.2.2. PROPOSED ACTION

Under the Proposed Action, noise levels would be elevated above the typical 35- to 50-dBA ambient noise level due to construction activities. As noise typically decreases by 6 dBA approximately every 50 feet from the source, and the nearest residence is 3.6 miles away, impacts to noise-sensitive receptors would be limited to the 11-month construction period and non-obtrusive at the nearest receptors. Once construction activities are completed, noise levels would return to existing ambient levels. No loud impulse sounds or other noise are expected to occur during operations. Impacts during decommissioning would be similar to those during construction.

3.10.2.3. AVOIDANCE AND MINIMIZATION MEASURES

Avoidance and minimization measures are not proposed.

3.11. Transportation

The analysis area for transportation includes the project area and existing roads that would be used by construction vehicles and personnel (West Riggs Road, South Maricopa Road/SR 347, and unnamed dirt roads).

3.11.1. Affected Environment

The project area is located on tribal trust land in portions of District 4 and District 6 in Maricopa County, approximately 14.5 miles southeast from downtown Phoenix. The project area is located adjacent to West Riggs Road and South Maricopa Road/SR 347. West Riggs Road is located south of the project area and SR 347 is located to the east of the project area (see Figure 3). Information on the roads that serve the project area is summarized in Table 8. The project area can be accessed using Ocotillo Road via SR 347. Ocotillo Road is approximately 1.6 miles long and primarily serves as an access road to the existing Lone Butte Substation. Additional access to the project area would be via other existing dirt roads and/or unnamed transmission line access roads from the south, which originates from West Riggs Road. Ocotillo Road and the existing dirt roads and/or unnamed transmission line access roads are typically not accessed by the public.

Table 8. Road Information Within Project Area

Road	Speed Limit	AADT (all figures from 2020)	Road Type	Mileage of Road (Direction)
West Riggs Road	45 mph	4,419 (Near intersection with SR 347)	Paved/Major arterial	28 (east-to-west)
SR 347	55 mph (between Interstate 10 and W. Riggs Road.)	38,589 (between Maricopa Road. North and W. Riggs Road.)	Paved/Principal arterial state highway	28 (north-to-south)
Ocotillo Road	N/A	N/A	Gravel road/Access road (maintained by the Community)	1.6 (east-to-west)

Source(s): Maricopa County Department of Transportation (MCDOT) 2022 Road Information and 2020 Street Counts (MCDOT 2020) and Arizona Department of Transportation (ADOT) 2021 Transportation Data Management System (ADOT 2021).

3.11.2. Environmental Consequences

3.11.2.1. NO ACTION ALTERNATIVE

The no action alternative would not impact transportation or associated facilities, as there would not be additional development or activities to generate additional traffic beyond current levels.

3.11.2.2. PROPOSED ACTION

Major roads such as West Riggs Road and SR 347 would be less affected during construction than access and maintenance roads and Ocotillo Road (which provides access to the Lone Butte substation). The effect on the Community’s ability to travel in and out of project area would be minor during construction; however, the use of these roads and access to the project area by the public is not common.

Under the Proposed Action, construction and operation access to the project area would be primarily via Ocotillo Road, which originates from SR 347. Other potential access routes include existing dirt roads and/or unnamed transmission line access roads, which originate from West Riggs Road (see Figure 3). Because of the Proposed Action's proximity to the Phoenix metropolitan area, it is anticipated that workers accessing the project area would primarily be using SR 347 to travel south toward the project area.

During construction and operation and maintenance of the Proposed Action, existing roads used for construction access would be maintained for public vehicle access. Improvements to the existing access roads required during construction are anticipated to be minimal (e.g., improving drainage or smoothing rough surfaces).

Impact to roads in the project area, which are currently used by local workers, ranchers, farmers, residents, and visitors, would result from project construction. A typical day would include the transportation of workers, movement of heavy equipment, and transportation of materials during peak construction. An increase of road traffic would result from construction-related movement of people, materials, and equipment; this increase would vary depending on the phase of construction. Project construction is planned to last approximately 11 months.

Over the construction period, workers would make a total of approximately 14,880 vehicle trips (including passenger/service trucks, large diesel [semi] trucks, and water trucks) for various tasks associated with project construction. See Table 1 in Section 2.4.2, which displays the estimated number of vehicle trips needed for equipment, materials, and personnel over the approximately 11-month construction period.

Traffic within the immediate vicinity would be temporarily impacted. Travel by construction workers and transport of equipment and materials would add to the current traffic volumes on surrounding roads. Local traffic would likely be impacted the most around the beginning and end of the workday. This temporary increase in traffic is expected to have an impact to the surrounding roadway network in the form of increased traffic and slight delays. With a speed limit of 55 mph on SR 347, traffic slowdowns may occur as materials and heavy equipment are transported to the project site via Ocotillo Road. Although these increases in vehicle trips would represent substantial increases to existing AADT levels, the duration of the increased traffic would be limited to the 11-month construction period.

Temporary and permanent access roads within the project area would be constructed to support construction and O&M. These roads, with the exception of Ocotillo Road (which is currently only used to access the Lone Butte Substation), would be private, located within the project area, and only accessible by project workers or other project-related staff. Ocotillo Road would be maintained by Lone Butte Solar under the terms of the San Carlos Irrigation Project (SCIP) easement between the Community and SCIP. Lone Butte Solar would repair any damage to the road resulting from project construction. Therefore, the newly constructed access routes would have no impact to public vehicle transportation or public vehicle access. No permanent changes to existing roads outside of the disturbance footprint are anticipated as part of the Proposed Action.

Traffic levels would return to existing AADT levels postconstruction. Any damage to roadways resulting from the increased heavy truck traffic would be repaired.

For the duration of operations, the Proposed Action is expected to require an estimated one vehicle trip per day, accessing the project area via Ocotillo Road, over a 5-day work week. Therefore, operation of the solar facility is not expected to cause or create any changes in traffic patterns; no new external roadways, intersections, upgrades, or traffic signals would be required.

Impacts to transportation associated with decommissioning activities would be similar to those associated with construction. Workers would use the same routes to access the project area as described during construction, resulting in temporary increases. As a part of decommissioning, internal access roads within the project area would be reclaimed.

3.11.2.3. AVOIDANCE AND MINIMIZATION MEASURES

The applicable permits needed to transport equipment and materials will be obtained and coordinated closely with the Community, Arizona Department of Transportation, and other state transportation departments, as appropriate. These could include an Oversize/Overweight Load Special Permit from ADOT, and right-of-entry permits with LUPZ, ADOT, and MCDOT.

3.12. Human Health and Safety

This section discusses the review of hazardous substances, petroleum products, and waste or other related environmental conditions and addresses the potential for occurrence in the project area. The review considered the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 USC 9601 et seq.) established the federal Superfund program, which the EPA administers. The Superfund program supports the investigation and cleanup of sites contaminated with hazardous substances. In addition, the review considered various other federal programs which regulate hazardous substances or petroleum products, including the Resource Conservation and Recovery Act (RCRA), the Toxic Substances Control Act, the Emergency Planning and Community Right-to-Know Act, Oil Pollution Act, Federal Brownfields Program, CWA, and the Federal Insecticide, Fungicide, and Rodenticide Act, as well as, state programs, including the Arizona Environmental Quality Act, Water Quality Assurance Revolving Fund, and various programs and regulations for landfills, petroleum storage tanks, voluntary cleanup sites. The analysis area for Human Health and Safety is the project area.

3.12.1. Affected Environment

3.12.1.1. ENVIRONMENTAL RISK MANAGEMENT

The project area is largely undeveloped and located approximately 3.6 miles from the nearest populated area (Lone Butte Ranch), approximately 1 mile from the nearest commercial developments (i.e., Wild Horse Pass and associated developments to the north), and approximately 1 mile from the Huhugam Heritage Center to the northeast. Because the project area is largely undeveloped, there is no indication of the presence of hazardous wastes or other harmful materials in the area. No Superfund sites are in or near the project area (EPA 2022). A Phase I Environmental Site Assessment was completed for the project in September 2022 (SWCA 2022b). No evidence of significant spills, staining, unusual odors, or potential sources of contamination was observed on or adjacent to the project area. The Phase I Environmental Site Assessment revealed no recognized environmental conditions (RECs), controlled RECs, or significant data gaps in connection with the project area.

3.12.2. Environmental Consequences

3.12.2.1. NO ACTION ALTERNATIVE

The no action alternative would not result in impacts from hazardous waste or other related environmental conditions, as the project would not be developed.

3.12.2.2. PROPOSED ACTION

Petroleum, oil, and lubricants would be used in the operation and maintenance of heavy construction equipment and vehicles during both construction and decommissioning, and some use of solvents and/or cleaners may occur as a result of project O&M. In addition to implementation of a SWPPP to avoid and minimize effects on surface waters (i.e., streams) resulting from stormwater runoff or pollutants, Lone Butte Solar will implement a Spill Prevention Control and Countermeasure Plan, which will outline measures for cleanup and management of any potential fuel, oil, or pollutant spills as a result of the Proposed Action. An Emergency Management Plan for the Proposed Action would also be implemented. For public safety and security purposes, the perimeter of the project will be surrounded by fencing. Secure access gates will be installed, and an on-site monitoring system will be managed remotely. Aisles between the solar arrays would be created to allow access to all areas of the site via foot or by use of 4×4 vehicles for emergency response. Implementation of these plans and design features would reduce the risk of impacts to the surrounding communities and commercial developments.

The model and specifications of PV solar modules to be used for the project has not yet been determined; however, it is anticipated that the modules will consist of state-of-the-art monocrystalline silicon that does not contain hazardous materials as defined by the RCRA. Although some solar modules are classified as hazardous waste under the RCRA, Clēnera is committed to using only Tier 1 and Tier 2 equipment that does not contain materials that meet the hazardous materials designation. The solar modules will not be composed of hazardous materials, and therefore, the installation and operation of these modules is not anticipated to result in contamination of soil or groundwater. The Proposed Action is expected to operate for approximately 35 years from commercial online date, at which time the Proposed Action may be decommissioned. As a result of decommissioning, solar modules will be removed and either repurposed or recycled. The panels will be disposed of in accordance with applicable federal, state, or local laws and regulations. Therefore, no significant risks to human health and safety resulting from hazardous materials are anticipated to result from the Proposed Action.

The design of the potential BESS has not been determined but is anticipated that a self-contained battery storage system consisting of a lithium-ion based system could be utilized. While the self-contained battery storage systems are not considered a hazardous material or waste, the periodic replacement of spent batteries and the eventual decommissioning of the BESS would occur. Spent lithium-ion batteries are considered hazardous waste that must be disposed of in accordance with RCRA and would require compliance with the Emergency Planning and Community Right-to-Know Act. Spent batteries would be recycled or disposed of off-site in accordance with 40 CFR 273.2 and 266. Inspections of the batteries would be performed as part of a preventive maintenance program.

3.12.2.3. AVOIDANCE AND MINIMIZATION MEASURES

- All waste will be collected on-site and temporarily stored in trash containers located at the staging areas. Waste will be hauled off-site via dump trucks for disposal at approved waste handling facilities. Small quantities of hazardous materials may be contained within the solar panels and the self-contained BESS (if constructed). Solar panels and the BESS will be inspected prior to installation for any hazardous waste risk. Any damaged materials will be handled in accordance with the manufacturer's specifications, including applicable recycling.
- Hazardous materials, if present, will be handled and stored according to Community requirements and applicable hazardous materials and environmental laws, including but not limited to, the CERCLA, RCRA, the Hazardous Materials Transportation Act, 49 USC 1801 et seq.
- Vehicles and equipment will be maintained in proper working condition to reduce potential leaks of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials.

- An emergency response plan for O&M of the facility will be developed prior to operations.
- BESS are designed to be self-contained systems. They will require a fire protection system approved through the NFPA and will have the ability to self-cool with fans and/or air conditioning equipment.
- Wildland fire prevention measures including limiting vehicle travel within construction areas to only essential vehicles, establishing parking guidelines in remote areas, banning smoking and non-construction flame sources outside of vehicles or in defined safe zones, and establishing safety guidelines for construction flame and spark sources will be implemented.

4. CUMULATIVE EFFECTS

CEQ regulations define cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other action. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.70). Also, cumulative impacts are those “which when viewed with other reasonably foreseeable or proposed agency actions have cumulatively significant impacts” (40 CFR 1508.25(a)(2)). Cumulative impacts occur when the effects of an action are added to the effects of other actions occurring in a specific geographic area and timeframe. The analysis area for cumulative effects is the same as presented for each resource.

Several ongoing and planned projects in the area could generate cumulative impacts when considered together with the impacts of the Proposed Action, shown below in Table 9 and Figure 7.

Resources that were found to have no impacts are not included in the cumulative effects (i.e., wetlands and coastal resources). No further evaluation is provided for these resources.

4.1. Projects Contributing to Cumulative Effects

Table 9. Past, Present, and Reasonably Foreseeable Future Actions

Action	Past, Present, or Reasonably Foreseeable Future Actions	Description
Wild Horse Pass Development	Reasonably foreseeable future action	Proposed 3,300-acre master planned commercial development offering sites for entertainment, retail, housing, office, and themed attractions located north of the Proposed Action.
Multi-Use Soccer Fields	Reasonably foreseeable future action	Construction of new multi-use soccer field within Wild Horse Pass in District 4 of the Community.
Wild Horse Pass Hotel and Casino	Past	Entertainment, leisure, and hospitality development located north of the Proposed Action.
SR-202 South Mountain Freeway	Past	New 22-mile freeway linking Central Phoenix with a portion of Interstate 10 south in the Phoenix metropolitan area. The freeway is located to the north of the Proposed Action. It has three general-purpose lanes and one high-occupancy vehicle lane in each direction.
Casa Blanca School	Past	New kindergarten through 6th grade school consisting of multiple adjacent single-story buildings totaling approximately 101,000 square feet designed primarily to serve residents of Districts 3, 4, and 5.
Agriculture (Farming)	Past, present, and reasonably foreseeable future actions	Agricultural activities are present across the Community, and particularly adjacent to the project area.

Action	Past, Present, or Reasonably Foreseeable Future Actions	Description
Lone Butte Substation	Past	GRICUA is the owner and operator of Lone Butte Substation. APS and WAPA connect into the power grid here.
APS 230-kV transmission line	Past	APS has a 230-kV transmission line connecting with Lone Butte Substation, trending north and south. APS conducts periodic noxious weed control along their rights-of-way.
WAPA Transmission Line	Past	WAPA has a 230-kV transmission line connecting with Lone Butte Substation, trending east and west.
Police Facility	Past	New police facility located in Sacaton, Pinal County.
Project Scannel EA	Reasonably foreseeable future action	Proposed warehouse and distribution park near 40th Street and Willis Road, within Districts 4 and 6.
Santan Mountain Casino and Hotel	Reasonably foreseeable future action	The Casino Expansion Owners Team is constructing an approximately 165,000-square-foot casino and 150-room hotel southeast of the Gilbert Road and Hunt Highway intersection.
800 Acre Improvements	Reasonably foreseeable future action	An approximately 800-acre area located southeast of the Gilbert Road and Hunt Highway is planned for development. The area may be developed and could include flood control and drainage improvements, water and wastewater infrastructure, a hotel, a golf course, and commercial areas.
Warehouse and Distribution Center	Reasonably foreseeable future action	Proposed warehouse and distribution park near 40th Street and Willis Road, within District 6
Gilbert Road Improvements	Present	Widening of Gilbert Road between Hunt Highway and SR 87.

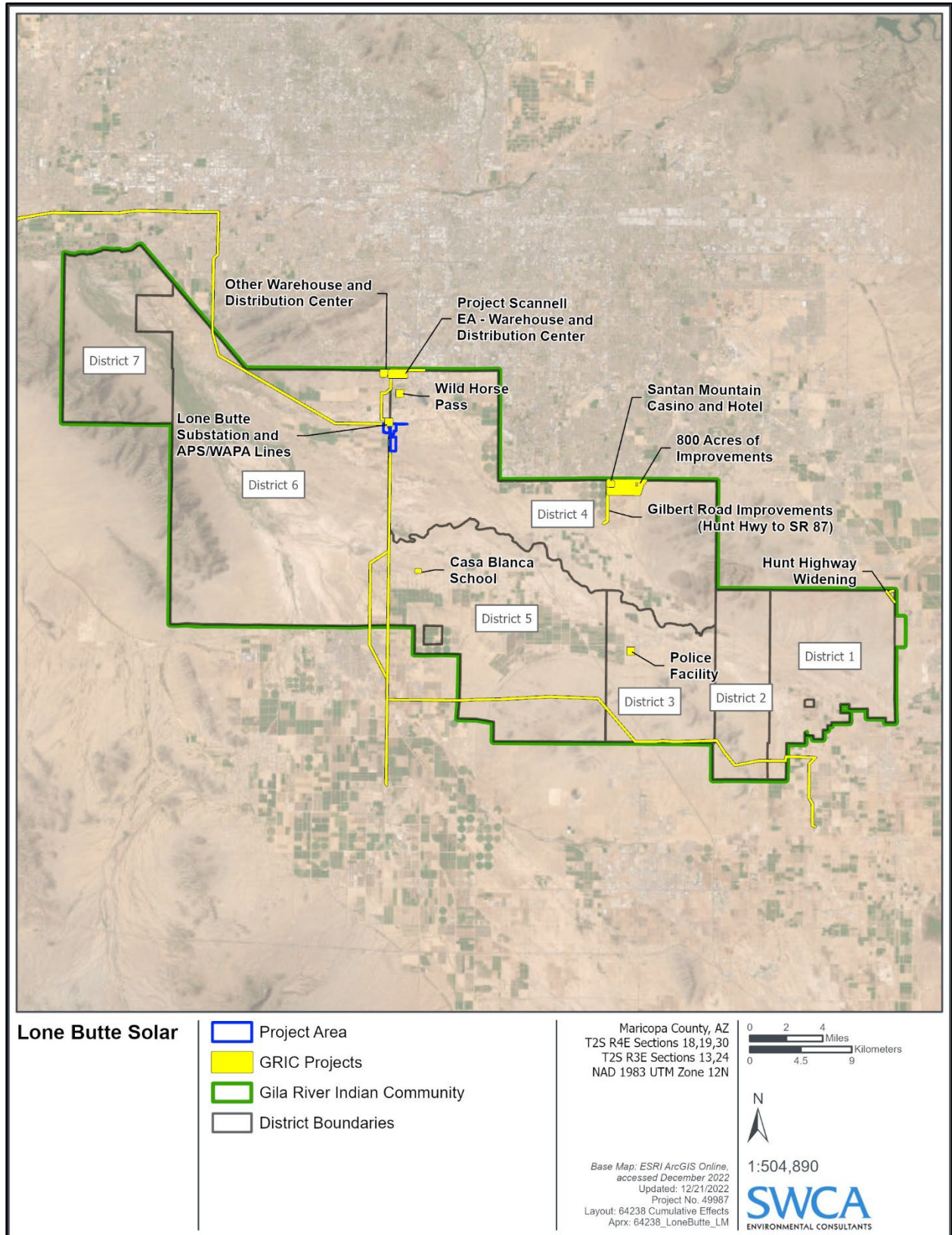


Figure 7. Past, Present, and Reasonably Foreseeable Future Actions.

4.2. Cumulative Effects Analysis

4.2.1. Land Use

Past, present, and reasonably foreseeable future actions in the analysis area (Community Districts 4 and 6) have resulted in increased development opportunities and value for the Community while conforming to Community plans. Casino and commercial development, along with the expansion and planned additional expansion of transportation and transmission systems would have an additive effect with the Lone Butte project (conversion of 355 acres from natural to an industrial site), in combination with past, present, and reasonably foreseeable future actions. Development of this project and the projects listed in Table 9 would cumulatively contribute to development of vacant land uses and conversion to industrial and other uses across the Community. This development would be in conformance with applicable Community Land Use plans.

4.2.2. Floodplains

Past activities, such as agricultural development and farming, have influenced and had the potential to impact “occasional” flooding in the project area, and nearby developments like casinos, commercial development, and transmission lines likely did not cumulatively contribute to slower flow rates or change the flooding frequency class. No drainage improvements have been made to the wash within the project area which would impact the flooding frequency class. No adverse cumulative effects on floodplains are anticipated.

4.2.3. Water Resources

The water resources cumulative effects analysis area is the Firebird Lake-Gila River watershed, which encompasses an area of 447 square miles (286,080 acres). Past, present, and reasonably foreseeable future actions in the analysis area have adversely affected water resource quantity through increased use and decreased quality from sedimentation and discharges related to ground disturbance and development. The project, in combination with past, present, and reasonably foreseeable future actions, would result in cumulative adverse effects on surface water quality and quantity as well as groundwater quantity. There would be no cumulative effects on groundwater quality because project ground-disturbing construction activities would not reach the depth of the water table and no direct impacts to groundwater quality are anticipated as a result of the Proposed Action.

4.2.4. Biological Resources

Past and present activities in the analysis area have resulted in changes to vegetation and impacts to wildlife, with varying degrees of impact from past agriculture, the Lone Butte Substation, and transmission lines. The project site was selected to minimize effects on biological resources but, to facilitate the generation of electrical energy to support the increase in electricity demand of the surrounding community, incremental habitat loss, fragmentation, and degradation would occur on 355 acres.

4.2.5. Cultural Resources

Past activities within the analysis area are not anticipated to have resulted in impacts to cultural resources or historic properties. As mentioned, two sites within the analysis area have been previously determined not eligible for listing in the NRHP and are not considered historic properties. These two cultural resources sites would be destroyed by the project. Future foreseeable development activity in the analysis

area is not anticipated, therefore, cumulative adverse impacts to cultural resources in the analysis area are not expected.

4.2.6. Aesthetics and Visual Resources

Past and present activities involving new development across the Community and surrounding landscape have contributed to cumulative adverse impacts to landscape character and visual resources in the analysis area. Undeveloped and agricultural land may be converted in the future, increasing the industrial appearance and reducing scenic landscape character. Past and present activities, in combination with the Proposed Action, would result in minor, adverse impacts to scenic resources through conversion of natural landscapes.

4.2.7. Air Quality

Past, present, and future foreseeable activities have all involved some level of equipment emissions and dust-generating activities that did not improve, but also likely did not significantly contribute to the PM₁₀ nonattainment area. The Proposed Action, in combination with past, present, and reasonably foreseeable future actions, would have negligible impacts to air quality and visibility.

4.2.8. Social Impact Analysis and Environmental Justice

Past, present, and foreseeable future actions in the analysis area support Community plans and goals, develop revenue and jobs, and provide essential services to the Community. The project, in combination with past, present, and foreseeable future actions, would result in long-term, beneficial cumulative effects in the Community.

4.2.9. Noise

Past activities have likely contributed to short-term elevations of noise from use of construction equipment, but no long-term effects are obvious. The project, in combination with past activities, would have no cumulative effect on the noise level.

4.2.10. Transportation

Past and present actions, as well as reasonably foreseeable future actions within the analysis area such as road improvement projects and commercial or residential development, would both beneficially and adversely contribute to the Community's transportation network. For example, some commercial or residential developments would likely adversely affect traffic flow as a result of increased travel to the developments during construction and operation, while the additive road improvement projects have improved traffic flow and reduced congestion and increased safety measures. Therefore, when past, present, and reasonably foreseeable future actions are considered in conjunction with the Proposed Action, transportation cumulative impacts would be limited to the 118-month construction period for the Proposed Action.

4.2.11. Human Health and Safety

Other development, transmission, and transportation projects would be assumed to use similar types and amounts of hazardous materials and hazardous and solid waste. Future projects listed in Table 9 may produce unknown types and amounts of materials and wastes. The use of hazardous wastes and materials in the analysis area would contribute to the cumulative use, transportation, and disposal of these wastes and materials.

The handling, transporting, and disposal of hazardous materials and hazardous and solid wastes are subject to stringent regulations under the EPA, ADEQ, Arizona State Emergency Response Commission, and OSHA. Hazardous waste generated during the construction and operation of any of the projects listed in Table 9 would be required to comply with applicable regulations. With adherence to these regulations and mitigation, cumulative impacts from hazardous materials and hazardous and solid waste would be minimal.

5. SUMMARY OF AVOIDANCE AND MINIMIZATION MEASURES

Implementation of the following avoidance and minimization measures would reduce impacts to resources under the Proposed Action, in addition to those presented in the LUAR (see Appendix A). Avoidance and minimization measures for individual resources are described in the appropriate subsections of Chapter 3 and are summarized below. Other BMPs and minimization measures may be incorporated as the project moves forward into final design.

Waste and Hazardous Materials

- All waste will be collected on-site and temporarily stored in trash containers located at the staging areas. Waste will be hauled off-site via dump trucks for disposal at approved waste handling facilities. Small quantities of hazardous materials may be contained within the solar panels and the self-contained BESS (if constructed). Solar panels and the BESS system will be inspected prior to installation for any hazardous waste risk. Any damaged materials will be handled in accordance with the manufacturer's specifications, including applicable recycling.
- Hazardous materials, if present, will be handled and stored according to Community requirements and applicable hazardous materials and environmental laws, including but not limited to, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, RCRA, and the Hazardous Materials Transportation Act, 49 USC 1801 et seq.
- Vehicles and equipment will be maintained in proper working condition to reduce potential leaks of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials.
- An emergency response plan for O&M of the facility will be developed prior to operations.
- BESS are designed to be self-contained systems. They will require a fire protection system approved through the NFPA and will have the ability to self-cool with fans and/or air conditioning equipment.
- Wildland fire prevention measures including limiting vehicle travel within construction areas to only essential vehicles, establishing parking guidelines in remote areas, banning smoking and non-construction flame sources outside of vehicles or in defined safe zones, and establishing safety guidelines for construction flame and spark sources will be implemented.

Lighting

- The minimum intensity lighting that meets safety criteria will be used.
- All permanent lighting (e.g., full cut-off), except for emergency lighting triggered by alarms, will be fully shielded and use low-sodium or LED lights.
- Lighting will be mounted so that no light is emitted above an imaginary horizontal plane through the fixture.
- Lighting control through timers with motion sensors will be implemented.

Air Quality

- Dust-causing activities during high wind periods will be restricted, as feasible.
- Stabilized rock will be installed at construction entrances/exits.
- Measures such as application of water and/or dust suppressants, reduction of vehicle speeds on unpaved roads, installation of gravel surfaces along roads and laydown areas will be implemented, as feasible.
- Woody vegetation cleared from the site may be mulched and used for on-site dust suppression.
- Loads will be covered on vehicles that transport loose materials as they travel on public roads, dust suppressants will be applied to truck loads, and/or loads will be kept below the freeboard of the truck bed.
- Implementation of erosion control measures per the project's SWPPP.
- Machinery that has air-emission-control devices as required by local regulations or ordinances will be used.

Biological Resources

- To reduce impacts to the monarch butterfly, vegetation will be maintained as necessary to prevent risk of fire and/or overshadowing of solar panels. Mowing will be timed to avoid removal of nectar resources (flowering plants), as feasible. The use of herbicides and pesticides will be timed for when pollinators are not actively foraging (i.e., during evening or at night) and the application of bee-toxic pesticides during bloom will be avoided, if feasible. Herbicides and pesticides will be reviewed/approved by the applicator and applicators will check wind conditions and other weather parameters prior to application to prevent drift. Low speed limits will be posted on access roads within the project area, which would limit the potential for collisions. During project decommissioning, milkweed species native to the project area will be included in the seed mixes used for revegetation.
- Trenches/holes will be filled immediately or escape ramps for wildlife will be provided. Trenches will be inspected, and any animals will be removed prior to backfilling.
- Vegetation clearing will be conducted during the non-breeding bird season. If the bird breeding season cannot be avoided, bird nest surveys will be conducted in areas to be cleared and non-disturbance areas will be flagged to avoid destroying active nests.
- Impacts on burrowing owls will be avoided by following AGFD's *Burrowing Owl Project Clearance Guidance for Landowners* (2009), to survey for burrowing owls and to institute the appropriate conservation measures for burrowing owls that occupy burrows in the construction footprint.
- Facilities will be designed to discourage their use as perching or nesting substrates by birds, including designing the aboveground transmission line to follow established Avian Power Line Interaction Committee guidelines to minimize bird collisions and avoid electrocution of raptors.
- Areas of surface disturbance will be minimized to the extent feasible and, if applicable, restoring exposed soils as closely as possible to their original contour and vegetation.

Invasive Species and Noxious Weeds

- Before arriving at or leaving the project site, equipment will be inspected and visible plants, seeds, mud, and dirt clods will be removed. While on the site and moving to and from different areas, reasonable efforts will be made to remove visible plants, seeds, mud, and dirt clods.

- Construction materials imported to the site, including any soil, erosion control products, and seed mixes, if any, shall be free of invasive species, if possible.
- During operations, invasive species will be managed to avoid establishment and spread on-site. Only EPA-registered pesticides and/or herbicides that also comply with state and local regulations will be used. Pesticide use will be limited to nonpersistent, immobile pesticides and will only be applied in accordance with label and application permit directions and stipulations for terrestrial applications.

Cultural and Historic Resources

- In order to avoid known cultural resource sites, the current APE for the Proposed Action will be surrounded with a fence that will provide adequate protection for the three adjacent archaeological sites. The fence will provide a buffer between the avoidance area that is adjacent to the APE and the actual site boundary which will serve as a setback. In the event that any previously unknown cultural resources are encountered during the proposed undertaking, all work will immediately cease within 50 feet of the encountered cultural resource, the area will be roped off, and Lone Butte Solar will contact the Community's CRMP and RUS for further consultation.

Transportation

- The applicable permits needed to transport equipment and materials will be obtained and coordinated closely with the Community, ADOT, and other state transportation departments, as appropriate. These could include an Oversize/Overweight Load Special Permit from ADOT, and right-of-entry permits with LUPZ, ADOT, and MCDOT.

Soil and Water Resources

- The existing landscape (e.g., slope, drainage, use of existing roads) will be maintained, where feasible, to minimize or avoid grading work and land disturbance to the maximum extent possible.
- Temporary disturbance areas will be recontoured and revegetated after construction to increase infiltration and reduce soil compaction, as feasible.
- Engineered SWPPP plans will be submitted to the Community prior to the start of construction and designated on-site SWPPP inspectors will be employed for routine inspections as well as for inspections after storm events per the plan outlined in the SWPPP.

Floodplains

- A detailed hydrologic and hydraulic investigation meeting requirements set forth in the latest version of the *Draft Drainage Design Guidance Manual* administered by the LUPZ Flood Control Section shall be provided.

6. COORDINATION, CONSULTATION, AND CORRESPONDENCE

6.1. Tribal Consultation

RUS consulted with the following tribes: Ak-Chin Indian Community, Hopi Tribe of Arizona, Pascua Yaqui Tribe (PYT), Pueblo of Zuni, Salt River Pima-Maricopa Indian Community of the Salt River Reservation, Arizona (SRP-MIC), Tohono O'odham Nation of Arizona (TON), Tonto Apache Tribe, White Mountain Apache Tribe of the Fort Apache Reservation, Arizona (WMAT), and Yavapai-Apache Nation. Section 106 consultation letters were sent to the tribes on November 6, 2023. Responses were received from SRPMIC, TON, WMAT, and PYT. None of the responding parties objected to the finding of effect. RUS has determined the Proposed Action will result in a finding of No Adverse Effect in accordance with 36 CFR § 800.5(b). The GRIC THPO has concurred with this finding. All correspondence associated with Section 106 consultation is on file at RUS.

6.2. U.S. Department of Agriculture Natural Resources Conservation Service

A Farmland Conversion Impact Rating Form (AD-1006) was prepared for the Proposed Action due to presence of soils identified by the USDA NRCS Web Soil Survey database (NRCS 2022) as important farmlands occurs within the project area. Coordination with the NRCS Arizona State Field Office occurred between August 19 and September 1, 2022. On January 3, 2023, Form AD-1006 was completed and submitted to the NRCS (see Appendix B). No further correspondence is anticipated.

6.3. U.S. Army Corps of Engineers

On August 12, 2022, Clēnera provided the USACE a report titled 'Aquatic Resources Assessment for the Lone Butte Solar Project in Maricopa County, Arizona,' dated April 2022 (File No. SPL-2022-00449) and requested feedback from the USACE on potential WOTUS in the project area. No formal jurisdictional determination was requested and a determination of geographic jurisdiction under Section 404 of the CWA was not provided; however, on October 27, 2022, the USACE responded via email correspondence that the delineated boundaries of the aquatic features in the review area are a reasonable representation of the aquatic resources located on-site and concurred with the overall findings of the report (see Appendix D). No further correspondence is anticipated or required.

6.4. Public Involvement

Public involvement is an integral part of the NEPA process. RUS engaged in consultation with federal agencies during development of the EA. Additionally, a local newspaper advertisement announcing the availability of the EA was published in the Gila River Indian News in February 2024. A copy of the EA is available for public review at <https://www.rd.usda.gov/resources/environmental-studies/assessment/lone-butte-solar-llc> and a hardcopy of the EA was made available at the Community's District No. 6 Service Center located at 5230 West St. Johns Road, Laveen, Arizona 85339. The comment period for the EA is 14 days from publication of the notice of availability.

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8. LIST OF PREPARERS

Table 10 identifies the RUS and consultant staff involved in the preparation of this EA.

Table 10. RUS Staff and Consultants Involved in the Preparation of the EA

Name	Agency/Company	Role/Resource Specialty
Alan Hachey	RUS	Environmental Protection Specialist/Project Manager
Jeffrey D. Larson	RUS	Archaeologist and Historian/Project Manager
Jeremy Casteel	SWCA	Project Manager, floodplains, wetlands and water resources, coastal resources
Andrew Vorsanger	SWCA	Cultural resources
Erica Fraley	SWCA	Biological resources
Spencer Branch	SWCA	Aesthetics/visual resources
Hannah French	SWCA	Transportation, human health and safety, air quality
Kristin Miller	SWCA	Land use, social impact assessment and environmental justice, noise

APPENDIX A

Gila River Indian Community Land Use Action Review



GILA RIVER INDIAN COMMUNITY

Department of Land Use Planning & Zoning

MEMORANDUM:

Main Location:
P.O. Box E
291 W. Casa Blanca Rd.
Sacaton, AZ 85147
Phone: (520) 562-6003
Fax: (520) 562-6040

Realty Services:
64 E. Pima Street
Sacaton, AZ 85147
Phone: (520) 562-5060
Fax: (520) 562-5064

Administration

**Flood Control
Engineering**

**Geographic Information
Systems**

Land Surveying

Livestock/Ordinance

Planning Development

Realty Services

**Subdivision
Administration**

TO: Kathy Galloway, Operations Director
Gila River Indian Community Utility Authority

THRU: Kimberly Antone, Director
Department of Land Use Planning & Zoning

FROM: Wynona Baheshone, Planning Manager
Department of Land Use Planning & Zoning

DATE: October 17, 2017

SUBJECT: Lone Butte Solar Facility Land Use Action Review
LUPZ# 17-20559

A Land Use Action Review (LUAR) has been conducted for the District Four and Six Proposed Lone Butte Solar Facility Project. Attached is the completed LUAR report which includes the report, photos, references and recommendations by the Gila River Indian Community (GRIC) Departments upon their review and analysis of the proposed development. The Department of Land Use Planning and Zoning recommends approval with stipulations to proceed with the request.

Please feel to contact me at 520.562.6003 or wynona.baheshone@gric.nsn.us if you have any questions regarding this report. Thank you.

Att.

file

Gila River Indian Community

Department of Land Use Planning & Zoning

*Main Location:
291 W. Casa Blanca Rd.
Post Office Box E
Sacaton, Arizona 85147
Phone: (520) 562-6003
Fax (52)562-6040*



*Realty Services Location:
65 Pima Street, Sacaton
Phone: (520) 562-5060*

LAND USE ACTION REVIEW

LUPZ ID Number 17-20559

APPLICANT: Kathy Galloway, Gila River Indian Community Utility Authority
OWNER(s): Gila River Indian Community Utility Authority
DISTRICT: Four and Six
LOCATION: Being a portion of Sections 14, 13, 23, 24, 25,26, T2S, R3E, Sections 19 and 20, T2S, R4E, G&SRB&M, Maricopa County, Arizona
PURPOSE: Proposed Lone Butte Solar Facility
STAFF PLANNER: Wynona Baheshone
DATE: September 18, 2017

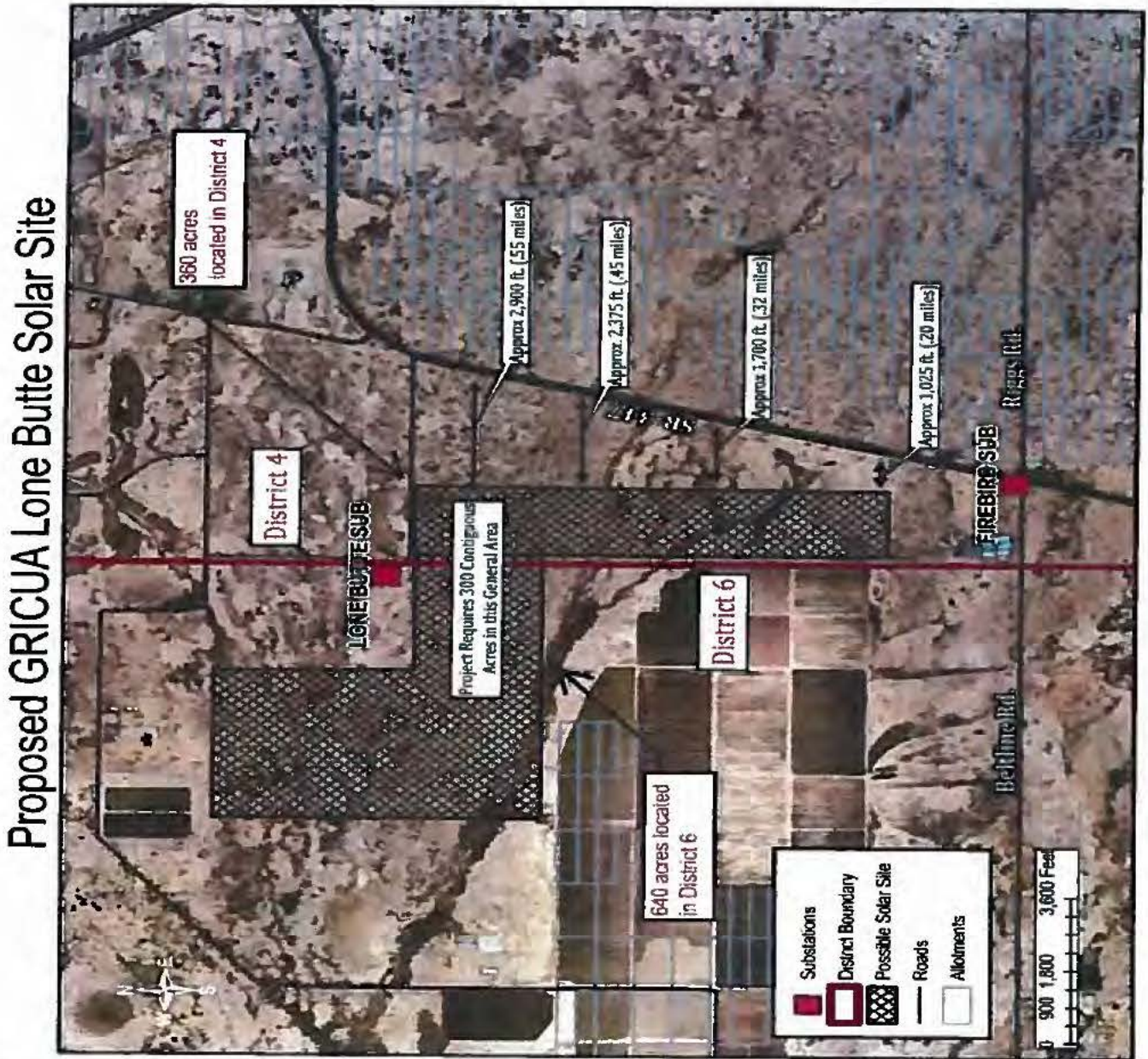
DESCRIPTION OF REQUEST

The Gila River Indian Community (GRIC) General Land Use Plan, Section V(A), requires the review of land use actions which include any changes in land use, major utility improvements, commercial and industrial development, residential subdivision development, and the construction of major public facilities, shall be conducted following the Land Use Action Review Process. Accordingly, Gila River Indian Community Utility Authority (GRICUA) submitted a Land Use Action Review (LUAR) request for land assessment for the proposed Lone Butte Solar Facility, a Utility Scale Solar Facility, in District Four and Six, being a portion of Sections 14, 13, 23, 24, 25,26, T2S, R3E, and Sections 19, 20, T2S, R4E, G&SRB&M, Maricopa County, Arizona. See Location Map - Figure A on page 2.

SITE DESCRIPTION

A field review was conducted by Planning Manager Nona Baheshone. A site visit was also conducted by Paul Shorthair, Land Use Ordinance Officer, regarding a native plant review. The topography has minimal elevation difference and vacant desert land. The proposed project will be located within contiguous 300 acres more or less. The 300-acre site will be located within the 1,000 acres more less of the general clearance area. The proposed acreage in District Four is 360 acres more or less, and 640 acres more or less in District Six for the general clearance area. The proposed project site is entirely on Community trust land. Lone Butte Substation is located in District Six along Ocotillo Road alignment, and the

Figure A
Proposed Lone Butte Solar Facility, Sections 14, 13, 23, 24, 25,26, T2S, R3E, Sections 19 and 20, T2S, R4E, G&SRB&M, Maricopa County, Arizona
Location Map

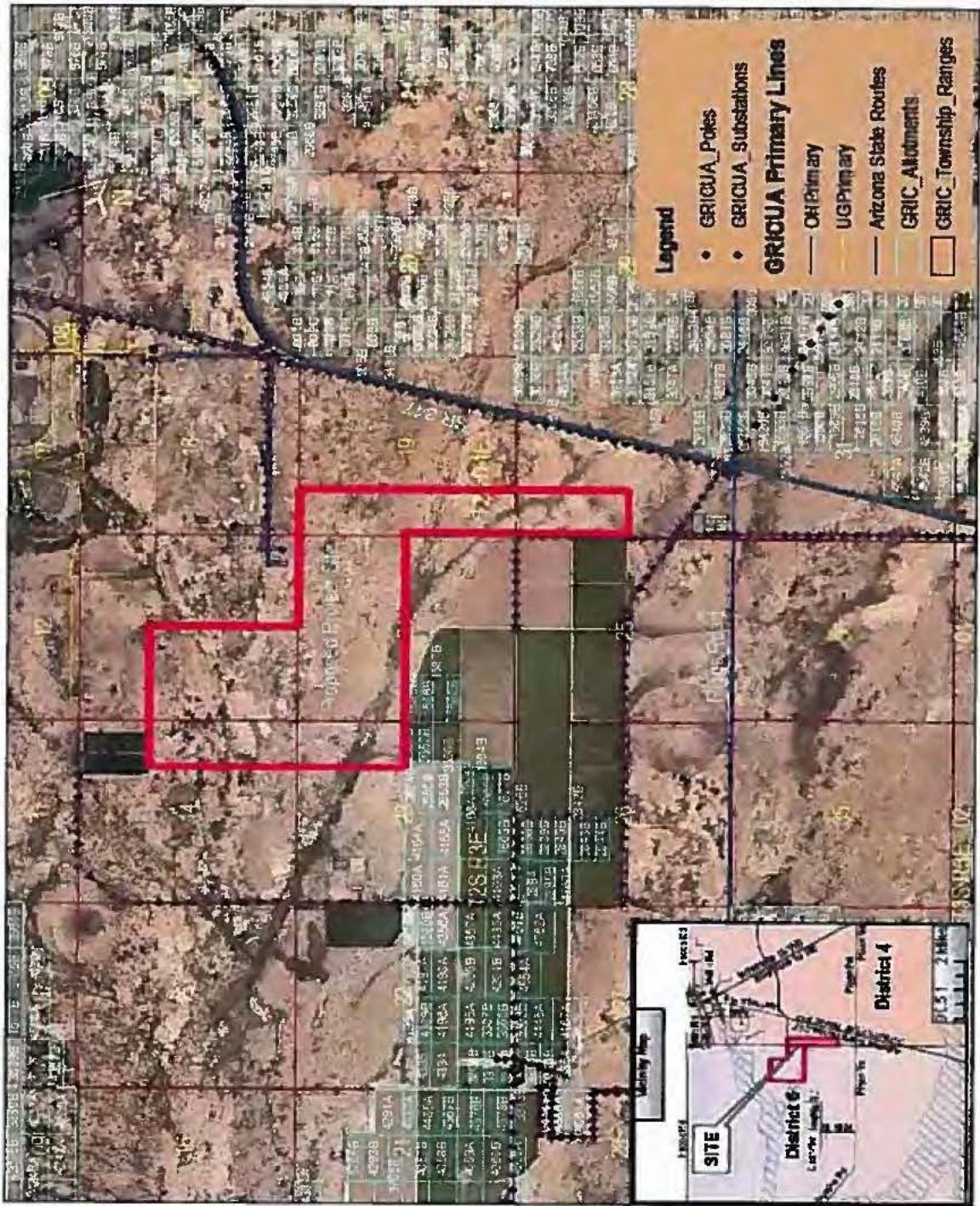


Firebird Substation is located at the northwest corner of Riggs Road and SR 347 in District Four. GRICUA has electric facilities surrounding the proposed project site. See Figure B on page 3. There is a Arizona Public Service (APS) 230kV transmission line traversing the proposed project site along Range 3 and 4 near the boundary of District Four and Six.

SURROUNDING LAND USE/TRANSPORTATION

The proposed project site is located in the rural area of District Four and Six with rural agricultural development located to the southwest. SR 347 is located to the east and Riggs Road is located south of the proposed project site. The Chandler Wastewater Treatment

Figure B
GRICUA Existing Facilities Within The Proposed
Lone Butte Solar Facility Map



Plant, GRIC Reverse Osmosis Water Treatment Plant and Whirlwind Golf Club are located north of the proposed project site. The subject property is designated as Agriculture in the 1985 General Land Use Plan, and designated as Mixed Use in the Master Plan for District Four and District Six. The property is not zoned.

SITE PHOTOS AND ROW ILLUSTRATION (The location map and site photos are for illustration purpose only, and not to be used for engineering or design works)



Looking south across the proposed project site from the Chandler WWTP.



Looking north along the APS easement from Beltline Highway. Proposed project site is located east of the powelines in District Four.



GRIC Reverse Osmosis Water Treatment Plant is located north of the proposed project site.



Chander Wastewater Treatment Plant is located north of the proposed project site.

LAND USE ACTION REVIEW REQUIREMENT

The Gila River Indian Community (GRIC) General Land Use Plan, Section V(A) requires “*land use actions, which include any changes in land use, major utility improvements, commercial and industrial development, residential subdivision development, and the construction of major public facilities, shall be required to follow the Land Use Action Review Process.*” Accordingly, GRIC Departmental staff and GRTI have reviewed this land use action and made recommendations on Transportation Right-of-way, Utilities, Drainage, Native Plants, Environmental, Fire Protection, Surrounding Land Use, and Cultural/Archaeological sites.

Table.1 - LUAR Report Received by LUPZ lists the departments noticed of the LUAR. This LUAR summarizes department reports with the full reports attached as Exhibits.

Table 1. LUAR REPORT RECEIVED BY LUPZ	
Department/Entity	Comment
Cultural Resources Management Program	LUAR report received on October 20, 2016
GRIC Department of Public Works	LUAR report received on September 5, 2017
Flood Control	LUAR report received on September 11, 2017
Native Plant Review	LUAR report received on August 23, 2017
Pima-Maricopa Irrigation Project	LUAR report received on August 24, 2017
GRIC Department of Environmental Quality	DEQ did not respond.
GRIC Department of Transportation	LUAR report received on September 1, 2017
Gila River Telecommunication Inc.	Did not respond.
Gila River Fire Department	LUAR report received on August 16, 2017
Tribal Projects Development	LUAR report received on August 11, 2017

CULTURAL RESOURCE

GRIC Cultural Resources Management Program (CRMP) conducted a Class I inventory and the previously surveyed, but 124.44 acres of the APE has not been surveyed in the last ten years. There are 15 archaeological sites and 24 HDCR within one-fourth mile of the APE. Since the proposed undertaking requires land leveling and embedment of solar panel pole supports may adversely affect significant cultural remains that may be present, CRMP recommends 1) a Class III archaeological survey should be completed for the 124.44 acres of the APE, 2) Two sites are ineligible for inclusion on the NRHP, therefore, no further work is recommended for these two sites. 3) Six cultural resources within the APE has been recommended to either eligible for inclusion on the NRHP or they require further data to assess NRHP eligibility; therefore, it is recommended disturbance of these six sites should be avoided, 4) Since the solar energy plant would require 300 contiguous acres within the 1,000 acres of the evaluation area, it is recommended GRICUA should select a 300-acre site that impacts the fewest possible archaeological sites. See Exhibit B.

UTILITIES

1. GRIC Department of Public Works has a 12" water main located in front of the GRIC Reverse Osmosis Water Treatment Facility. There is an 8" water main providing service to the Maricopa Wells Ghost Town, and a 12" water main is located on the west side of SR347 that provides water to District Six. There is an 8" sanitary sewer main located along the south side of Koli Road which connects to the Chandler Wastewater Treatment Facility, which is located west of the GRIC Reverse Osmosis Water Treatment Plant. See Exhibit D.
2. Electric Power lines: Gila River Indian Community Utility Authority (GRICUA) has electric facilities surrounding the proposed project site. See Figure B on page 3.

DRAINAGE AND FLOOD CONTROL

LUPZ Flood Control's finding indicate the property is located in a vacant area that slopes from east to west and has a watershed that is bounded by the elevation of SR 347 (Maricopa Road) east of the proposed project site. The proposed project site is located in an area with two major contributing watershed which impact the site and a large box culvert that crosses under SR 347 and discharges approximately 2276 cfs into the southern watershed. See the full report regarding the maximum possible depth within two watersheds. There is various volumes of sheet flow and any construction within the main channels of drainage may affect structures downstream. It is recommended the project design take the indicated drainage channels and sheet flow as well as localized drainage into consideration and implement drainage structures and techniques to ensure that structures located downstream are unaffected. See Exhibit D.

ENVIRONMENTAL

According to GRIC Department of Environmental Quality (GRIC DEQ) the action does not appear to have a significant effect on the quality of human environment and further environmental analysis and documentation is not required. However, solid waste was observed and all waste should be removed according to environmental regulation. See Exhibit J.

NATIVE PLANTS

There were numerous protected Mesquite trees and Barrel Cacti found within the proposed project site, therefore, a Native Plant Review will be required. See Exhibit F.

PIMA-MARICOPA IRRIGATION PROJECT

Pima-Maricopa Irrigation Project (P-MIP) does not object and endorses the proposed project. The land is non-SCIP decreed land and there is no proposed or planned agricultural development in the area. See Exhibit G.

GRIC DEPARTMENT OF TRANSPORTATION

Gila River Indian Community Department of Transportation (GRICDOT) has no Grant of Easement on file for a roadway on file within the proposed project site. Riggs Road is the nearest roadway with a right of way which is located south of the proposed site. Riggs Road is a Maricopa County Department of Transportation (MCDOT) road. SR 347 (Maricopa Road) is located east of the proposed site which is an Arizona Department of Transportation road. See Exhibit I.

COMPLIANCE WITH THE GENERAL LAND USE PLAN AND DISTRICT MASTER PLAN

The proposed land acquisition area is within land use classification of Agriculture pursuant to the General Land Use Plan, Section IV. A., and the Master Plan designates the property as Mixed Use which allows a mix of at least two or more of the following uses to occur: office, commercial, medical offices or clinics, casinos, restaurants, entertainment venues or tourism-related uses, residential, and light industrial or low impact employment.

The proposed project complies with the goal for commercial activities in the General Plan, *“Designate areas for establishing retail and or service businesses desired by local residents to serve the needs of the respecting communities.”* The proposed project is also in keeping with the District Four and Six Master Plan goals, objectives and strategies as follows:

Economic Development Activities

Goal EA 1: Diversify economically to create sustainable economic development and build wealth for District Members.

Objective EA 1.1: Maximize the Community’s economic competitiveness

Strategies:

- a. Identify viable parcels with frontage on I-10, Loop 202, SR 347, SR 587, SR 87, and along major arterial roads including Riggs Road, Queen Creek Road, Kyrene Road and McClintock Road.
- b. Leverage Community land holdings into steady revenue streams through the leasing and appropriate development of employment-related uses.
- c. Invest in the maintenance and development of the Community’s infrastructure to support and attract businesses.
- d. Foster economic diversification that increases revenues and promotes industries that are vital to the Community.

Infrastructure

Goal I 1: Provide public infrastructure to support current and future development in a quality, cost effective manner.

Objective I 1.6: Improve the energy resources of the Gila River Indian Community.

Strategies:

- a. Research and look for ways to develop alternative sources of energy to serve development within the Community for the future.
- b. Provide reliable electric and natural gas utilities in the District by coordinating with appropriate service providers

Natural Resources

Goal NR 1: Preserve, maintain and enhance the natural environment and open space character of the Gila River Indian Community area as a living resource, making sure that development harmonizes with, supports, and does not degrade its natural character.

Objective NR 1.3: Ensure development complements the District’s natural resources.

- b. Plan growth with consideration to energy efficient patterns of development, including access to solar and wind energy.

DEPARTMENT OF LAND USE PLANNING & ZONING RECOMMENDATIONS

The proposed project has been reviewed in accordance to the General Land Use Plan and the District Four and Six Master Plan. Field surveys and assessments have been conducted in regards to Transportation, Utilities, Drainage, Native Plants, Fire Protection, Surrounding Land Use, and Cultural/Archaeological Sites. It is imperative future design and construction of buildings, structures, and parking require additional assessments and reviews by GRIC Departments. The Department of Land Use Planning & Zoning recommends approval of the proposed project subject to the following stipulations:

- 1. In the event that previously unidentified cultural resources are found during construction, all ground disturbing activities shall cease at that location and the person in charge shall contact GRIC-Cultural Resource Management Program. See Exhibit C.
- 2. GRIC DEQ shall review a Dust Control Plan prior to issuing an Earthmoving Permit for the development construction activities, in regards to dust control remedies during and after construction. Earth Moving Permit/ Dust Control Plan Application forms can be acquired by contacting GRIC DEQ, Air Quality personnel at (520) 562-2234.
- 3. A Native Plant Salvage Plan shall be reviewed and approved by the Department of Land Use Planning & Zoning before any land disturbance begins pursuant to the Native Plant Review. See Exhibit F.
- 4. Site grading, paving, drainage and project utilities plans for egress/ingress, parking, water, wastewater, electrical power, natural gas, lighting, fencing, landscaping and signage shall be submitted for review and approval by GRIC Technical Stakeholders for a Certificate of Compliance prior to issuance of a construction permit.
- 5. Architectural/engineering plans for the project including any structural, mechanical, electrical, plumbing and site plan shall be submitted for review and approval by Building

Safety Department prior to issuance of construction permit. See Exhibit H.

6. Design and construction of the facilities shall adhere to the Gila River Fire Department Requirements using checklist at Exhibit E.
7. Construction contractors shall call Arizona Blue Stake at 1-800-782-5348 to request location of any underground utilities within project boundary.
8. Any development in this area shall provide a detailed hydrologic and hydraulic investigation meeting requirements set forth in the latest version of the *DRAFT Drainage Design Guidance Manual* administered by LUPZ Flood Control. See attached Exhibit D.

LIST OF EXHIBITS

- Exhibit A - Planning Request Form
- Exhibit B - Cultural Resource Management Program
- Exhibit C - Department of Public Works
- Exhibit D - Flood Control
- Exhibit E - Fire Department
- Exhibit F - Native Plants
- Exhibit G - Pima Maricopa Irrigation Project
- Exhibit H - Tribal Projects Development
- Exhibit I - GRIC Department of Transportation
- Exhibit J - Department of Environmental Quality

Exhibit A

LUPZ - Planning Request Form

Report and Findings for the Proposed Project

Lone Butte Solar Facility

LUPZ Number 17-20559

Gila River Indian Community
Department of Land Use Planning & Zoning

P.O. Box E
291 W. Casa Blanca Rd.
Sacaton, Arizona 85147



Phone: (520) 562-6003
Casa Grande Line: (520) 836-7291
Phoenix Line: (480) 899-0036
Fax: (520) 562-6040

**LUPZ REQUEST FORM
PLANNING**

NAME Kathy Galloway DATE 7/25/2017
ADDRESS 6640 W Sundust Rd PHONE NO 520-796-1667
EMAIL kgalloway@gricua.net FAX NO _____

TYPE OF USE

Tribal Department Use Only - Dept. _____ Bureau of Indian Affairs Use Only - Dept. _____
 Community Member Use Only - GRIC Enrollment No. _____ Other: GRICUA

TYPE OF REQUEST

LUAR (Land Use Action Review) Certificate of Compliance Planning Review Zoning
 Other _____

Location: District 6 & 4 Subdivision Name see attached map
Lot # _____ Allot # _____ Township _____ Range _____ Section _____

BRIEF EXPLANATION OF REQUEST

Start LURA process to obtain a Community Land Assignment or Lease for a proposed utility scale solar facility. Area is identified on attachment. District 6 Motion of Support is attached. GRICUA will seek MOS from District 4 later this month. No survey is required at this time.

Number of copies being requested _____

Kathy Galloway
Signature of Requestor

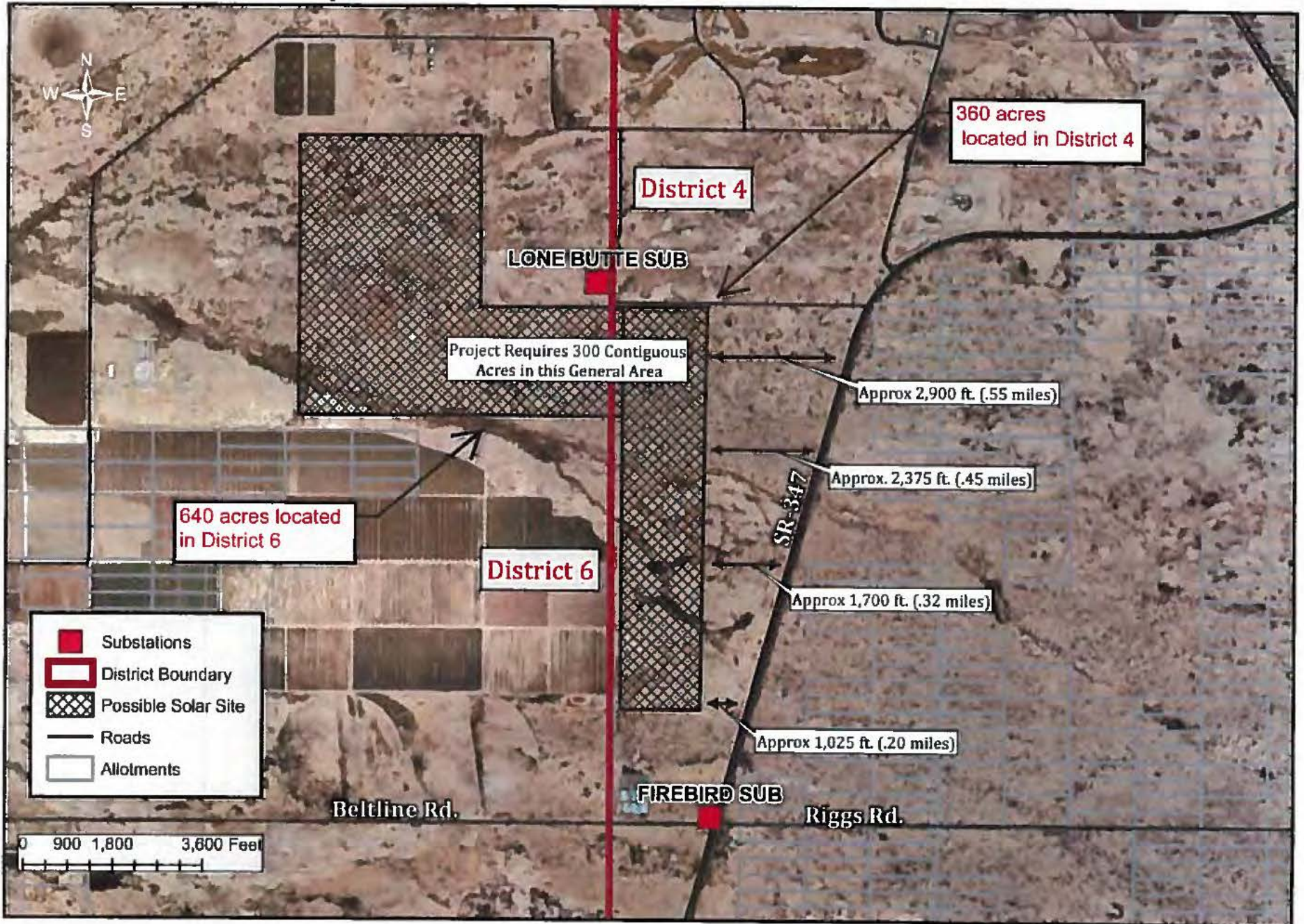
Kathy Galloway
Printed Name of Requestor

EVERY ATTEMPT WILL BE MADE TO PROCESS THE REQUEST IN A TIMELY MANNER. DELAYS MAY ARISE IN RETRIEVING INFORMATION AND APPROVAL MAY BE REQUIRED FROM ADMINISTRATION.
SUBMIT FORM TO LUPZ FRONT DESK OR EMAIL LUPZSUPPORTGROUP@GRIC.NSN.US

RECYCLED & ENTERED		LUPZ OFFICE USE ONLY			
DATE	Initials	Administration	Project Name: (Address/File Name)	Closed / Completed By	Delivered Via:
<u>7/25/17</u>	<u>[Signature]</u>	<input type="checkbox"/> Approve _____ <input type="checkbox"/> Decline _____ <input type="checkbox"/> Verify _____ <input type="checkbox"/> Pending _____	_____ _____ _____ _____	_____ _____ _____	<input type="checkbox"/> Mailed <input type="checkbox"/> E-mailed <input type="checkbox"/> FTP Site <input type="checkbox"/> Inter-Office Mail <input type="checkbox"/> Hand Delivered
Doc ID#	<u>17-20559</u>				

LUPZ Staff Releasing Document: _____ Date _____
Requested Items Released to (sign name) _____ Date _____
Requested Items Released to (print name) _____ Date _____

Proposed GRICUA Lone Butte Solar Site





GILA RIVER INDIAN COMMUNITY

5230 W. St. Johns Road
Post Office Box 54
Laveen, Arizona 85339
(520) 550-3805
Fax: (520) 550-2900

DISTRICT SIX COMMUNITY BOARD

June 8, 2017

Mr. Leonard Gold, General Manager
Gila River Indian Community Utility Authority
6636 W. Sundust Road, Box 5091
Chandler, AZ 85296

Dear Mr. Gold:

At the regular District 6 Community Meeting held on Monday, June 5, 2017, you presented to the Community a proposal to seek a land assignment that would be used to create a utility-scale solar generation project in the District 6 Community. The Community approved a motion for GRICUA to pursue the possibility of a utility-scale solar project in the east end of District 6 and to come back with more specifics as stated in the approved motion. This motion is also included with this letter and serves as confirmation of the action taken by this Community.

If you have any other questions regarding this letter, please do not hesitate to contact me via the District 6 Service Center at (520) 550-3805.

Sincerely,

Danelle Spring, Chairperson
District 6 Community Board

Enclosure: (1)

cc:

District 6 Council Representatives (3)

DISTRICT SIX COMMUNITY BOARD

Danelle Spring, Chairperson
Yolanda Ulas, Vice-Chairperson
Jacqueline Thomas, Treasurer
Lisa D. Shode, Secretary



GILA RIVER INDIAN COMMUNITY

5230 W. St. Johns Road
Post Office Box 54
Laveen, Arizona 85339
(520) 550-3805
Fax: (520) 550-2900

DISTRICT SIX COMMUNITY BOARD

MOTION SHEET

Meeting Date: June 5, 2017 Time: 7:14 p.m. Regular Special

If "Special" what was the topic? _____

Meeting Location: Learning Center Main Hall Other

Agenda Item: Minutes for Meeting held _____

Unfinished Business (Topic) _____

New Business (Topic) GRICUA Potential Solar Project and Site (Request for Letter of Support).

MOTION: That the District go ahead and support GRICUA pursuing the possible utility-scale solar energy project in the east end of District 6 and come back with more specifics as far as the land planning in that area at least to look into that project.

Motion made by: Albert Pablo Motion seconded by: Harry Williams, Jr.

7 Votes Approving 2 Votes Opposing 1 Votes Abstaining

Motion Passed Motion Defeated (Reason)

Recorded by: Lisa D. Shelde Date: 6/8/2017
District 6 Community Board Secretary

Attest by: Danette Spring Date: 6-11-17
District 6 Community Board Chairperson

DISTRICT SIX COMMUNITY BOARD
Danette Spring, Chairperson
Yolanda Elias, Vice-Chairperson
Jacqueline Thomas, Treasurer
Lisa D. Shelde, Secretary

Exhibit C

Department of Public Works

Report and Findings for the Proposed Project

Lone Butte Solar Facility

LUPZ Number 17-20559



GILA RIVER INDIAN COMMUNITY

DEPARTMENT OF PUBLIC WORKS
POST OFFICE BOX G
SACATON, AZ 85147

OFFICE: (520) 562-3343
FAX: (520) 562-3338

MEMORANDUM

TO: Wynona Baheshone, Planning Manager
Gila River Indian Community
Land Use Planning & Zoning

FROM: Pamela Vega
Right of Way Agent
Department of Public Works, GRIC

DATE: September 5, 2017

SUBJECT: LUAR – D4 & D6 Land Assignment
LUPZ ID# 17-20559

Gila River Indian Community Department of Public works is providing per your request, LUAR comments for the proposed utility scale solar facility to be located on a portion of T2S, R4E, S19 & 30 District 4, Maricopa County Az. and in T2S, R3E, S13,14 ,23 & 24 District 6, Maricopa County Az.

The Department of Public Works Engineering Staff has conducted a review of our composite water and sewer maps for this location and can report the following:

- DPW has a existing 12" water main that is located in front of the Reverse Osmosis Water Treatment Facility. There is also a 8" water main that provides water service to the Maricopa Wells Ghost Town, and a 12" water main on the west side of State Route 347 that provides water service to District 6 (see attached drawing).
- There is a 8" Sewer Main that runs along the South side of Koli Road that moves the waste water and raw sewage to the waste water treatment facility that is located just west of the RO Facility.
- Neither the water nor the sewer main would have a impact on the Land Assignment for the Lone Butte Solar Facility.

If you have questions or need additional information, please contact our office at (520) 562-3343.

Thank you.



LLPZ ID # 17-20559

Exhibit D

LUPZ - Flood Control

Report and Findings for the Proposed Project

Lone Butte Solar Facility

LUPZ Number 17-20559

Gila River Indian Community
Department of Land Use Planning and Zoning

Drainage Assessment and Floodplain Determination Survey for Land Use Action Review

Date: 09/11/2017	LUPZ No. 17-20559	Flood Control No.: FC 17-341 DA
-------------------------	--------------------------	--

Undertaking: Estimate of 100-year, 6-hour flooding/drainage condition associated with the following site described below in *Table 1*.

Table 1: Site Description.

Requestor	Wynona Baheshone
Project	GRICUA - Proposed Utility Scale Solar Facility
Land Status	Tribal Lands
District	4 and 6
USGS Quad.	Lone Butte, Pima Butte, and Gila Butte NW
Township, Range, Section	T2S, R3E, SEC 14, 13, 23, 24, 25, and 26 T2S, R4E, SEC 19 and 30
Latitude, Longitude	33.244342° N, 111.999908° W
Nearest Identified Watercourse	Gila Floodway

Survey Methods

The ArcMap program was used as a graphical interface and representation tool to display Maricopa County photogrammetric elevation raster data received 8/24/2017 and draft contours created from the elevation rasters, HEC-HMS modeling results, HEC-RAS modeling results, and 2013 aerial imagery. Google Earth was used as a source of visual and geographical verification. Additionally floodplain data collected by the Gila River Indian Community Department of Land Use Planning and Zoning's Flood Control Section was used to visualize and identify flooding risks in area of interest. HEC-RAS modeling results for floodplain delineation, volume values, and flow direction were used to assess and obtain conservative measurements of flooding hazards. The HY8 culvert calculator program was used to obtain a conservative measurement of maximum culvert discharge using field measurements. The HEC-HMS program was used to calculate the maximum discharge for each watershed area using methodology described in the Flood Control District of Maricopa County to be used with HEC-HMS modeling. NOAA Atlas 14 rainfall data for South Mountain Park was used for the 100-year 6-hour storm event to determine watershed discharge using HEC-HMS.

Assumptions

- Only local flooding and drainage conditions were considered for this level of drainage assessment.
- HEC-RAS and HEC-HMS results are preliminary and significantly impacted by topographic data quality.
- HY8 results assume the box culvert calculation is determined with the maximum discharge in a case where Maricopa Rd. would be nearly overtopped by drainage flows from the east of Maricopa Rd.

Findings

Approximate flow magnitude (discharge) and direction associated with the 100-year storm event - as modeled for this drainage assessment - are shown on Exhibit A. The proposed project area is located in a lightly developed area with a grade that slopes generally from east to west and has a watershed that is bounded to the east by the elevation of Maricopa Rd. The proposed project site is located in an area with two major contributing watersheds which impact the site and a large box culvert that crosses under Maricopa Rd and discharges approximately 2276 cfs into the southern watershed area which was calculated for the maximum possible discharge at the culvert exit. The maximum possible depth within the watershed indicated as "Watershed 1" in the attached Exhibit A is approximately 4.25 ft from the 100-year storm event. The maximum possible depth within the area indicated as "Watershed 2" is approximately 2.5 ft from the 100-year storm event. The proposed site has a high probability that storm events up to and exceeding the 100-year event could have localized pooling or flooding which may impact the site and could be from local undocumented conditions. The HEC-HMS results for "Watershed 1" indicate that the watershed area will generate approximately 766 cfs and "Watershed 2" HEC-HMS results indicate it will generate 726 cfs as localized sheet and channel flow. The HEC-RAS modeling results and floodplain mapping represent the 100-year storm event which could generate and discharge approximately 3042 cfs for "Watershed 1" as a combination of outflow for the culvert modeled by the HY8 program and is discharged as sheet and channel flow through the southern portion of proposed project boundary. "Watershed 2" discharges approximately 726 cfs as sheet and channel flow and the floodplain is modeled using this output discharge which flows through the northern portion of the project area for the 100-year storm event. Please refer to Exhibit A for the details.

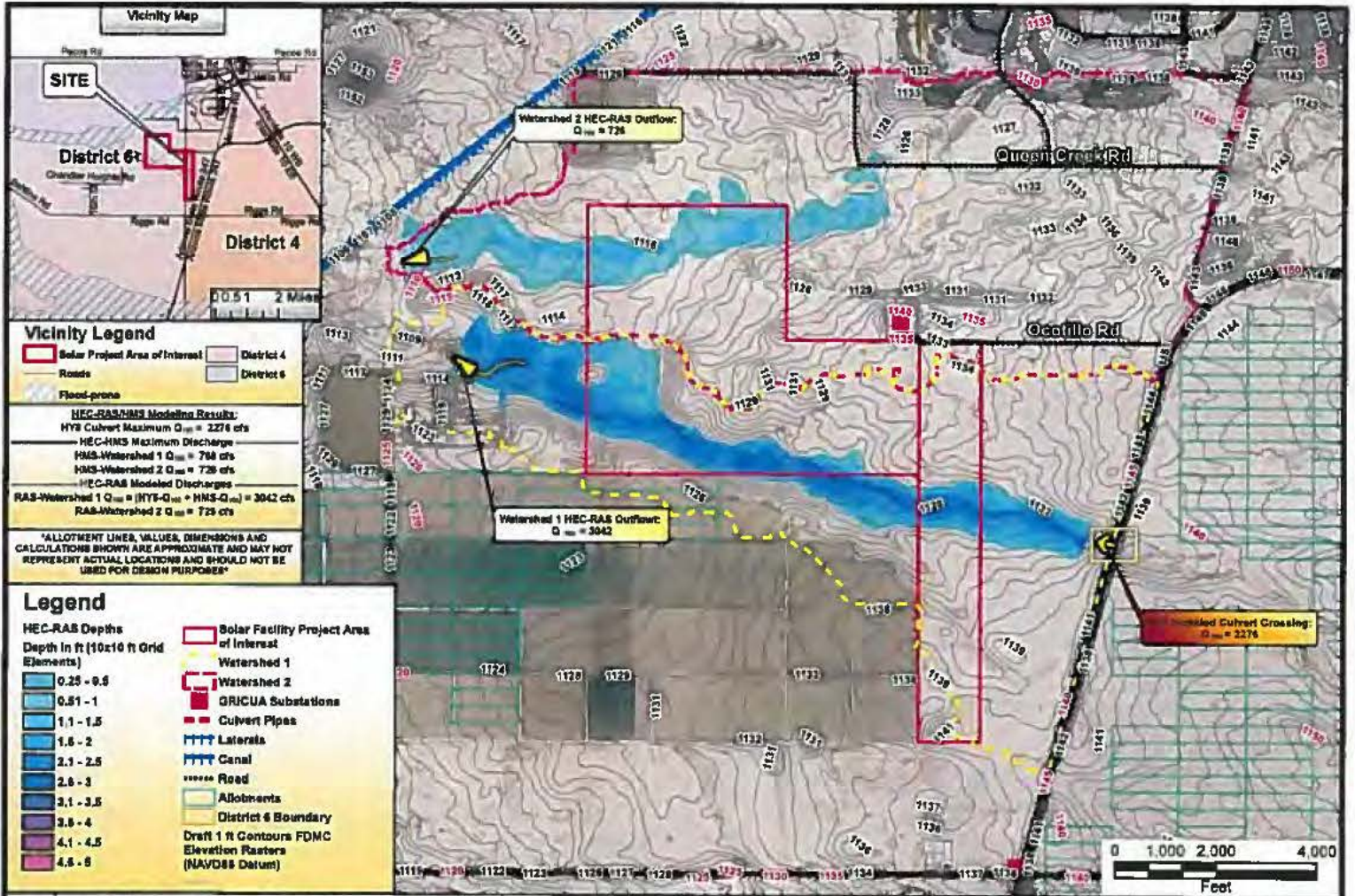
The property is not located within any recognized FEMA floodplain; however it may be in an area identified as flood prone by the Gila River Indian Community Department of Land Use Planning and Zoning's Flood Control Section. The site is located within a FEMA Shaded Zone D Special Flood Hazard Area. The FEMA Zone D designation is used for areas where there are possible but undetermined FEMA-based flood hazards, as no FEMA-based analysis of flood hazards has been conducted.

Recommendations

The proposed project site is indicated to receive various volumes of sheet flow and any construction within the main channels of drainage could affect other structures downstream if care is not taken with regard to maintaining the velocities and passing flows to areas at lower elevations. It is recommended that if construction is proposed, that the design take the indicated drainage channels and sheet flow as well as localized drainage into consideration and implement drainage structures and techniques to ensure that structures located downstream are unaffected.

Floodplain Statement

The property will experience light to heavy flooding at the 100-year, 6-hour storm return interval identified by the Gila River Indian Community Department of Land Use Planning and Zoning's Flood Control Section. This determination is a result of the 1-dimensional flood modeling results using HEC-RAS and HEC-HMS for the overall project area. Any development in this area shall provide a detailed hydrologic and hydraulic investigation meeting requirements set forth in the latest version of the *DRAFT Drainage Design Guidance Manual* administered by LUPZ Flood Control.



Vicinity Map

SITE

District 6*

District 4

0.51 2 Miles

Vicinity Legend

- Solar Project Area of Interest
- Roads
- Flood-prone
- District 4
- District 6

HEC-RAS/HMS Modeling Results:

- HYS Culvert Maximum $Q_{max} = 2276$ cfs
- HEC-HMS Maximum Discharge
- HMS-Watershed 1 $Q_{max} = 784$ cfs
- HMS-Watershed 2 $Q_{max} = 726$ cfs
- HEC-RAS Modelled Discharges
- RAS-Watershed 1 $Q_{max} = (HYS-Q_{max} + HMS-Q_{max}) = 3042$ cfs
- RAS-Watershed 2 $Q_{max} = 726$ cfs

ALLOTMENT LINES, VALUES, DIMENSIONS AND CALCULATIONS SHOWN ARE APPROXIMATE AND MAY NOT REPRESENT ACTUAL LOCATIONS AND SHOULD NOT BE USED FOR DESIGN PURPOSES

Legend

HEC-RAS Depths
Depth in ft (10x10 ft Grid Elements)

- 0.25 - 0.5
- 0.51 - 1
- 1.1 - 1.5
- 1.6 - 2
- 2.1 - 2.5
- 2.6 - 3
- 3.1 - 3.5
- 3.6 - 4
- 4.1 - 4.5
- 4.6 - 5

- Solar Facility Project Area of Interest
- Watershed 1
- Watershed 2
- GRICUA Substations
- Culvert Pipes
- Laterals
- Canal
- Road
- Alignments
- District 6 Boundary
- Draft 1 ft Contours FDMC Elevation Rasters (NAVD85 Datum)

PAGE 3 OF 3

GILA RIVER INDIAN COMMUNITY
LAND USE PLANNING AND ZONING

FLOOD CONTROL
PO BOX 8 - SACATON, AZ 85147
PHONEX (602) 543-4998

Proposed Utility Scale Solar Facility Drainage Assessment prepared for:
Gila River Indian Community Utility Authority
Land Use Action Review
LUPZ No.: 17-20559

Project No.
FC 17-341 DA

EXHIBIT A

Drawn By: N. Brewer

Checked By: S. Fields

Date: 09/11/2017

Exhibit E

Gila River Fire Department

Report and Findings for the Proposed Project

Lone Butte Solar Facility

LUPZ Number 17-20559



GILA RIVER FIRE DEPARTMENT REQUIREMENTS

Case Number: 17-0241FPB Date: 08/16/17 Reviewer: P.A. Hernandez

Project Name: GRICUA LUAR #17-20559 Request for Proposed Lone Butte Solar Facility

Location: District 4 and 6

Applicant: Nona Baheshone, Planning Manager Phone: (520) 562-6003

Applicant Address: 291 W. Casa Blanca Road / Sacaton / AZ / 85147

- 1. PREMISES IDENTIFICATION TO BE LEGIBLE FROM THE STREET OR DRIVE AND MUST BE ON ALL PLANS:
- 2. PROVIDE AN ALL WEATHER ACCESS ROAD (Minimum of 24 feet wide and 13 feet 6 inches high) TO ALL BUILDINGS AND FIRE HYDRANTS FROM PUBLIC WAY DURING AND AFTER CONSTRUCTION.
- 3. FIRE LANES AND EMERGENCY ACCESS SHALL BE PROVIDED AND MARKED IN COMPLIANCE WITH THE GILA RIVER FIRE AND LIFE SAFETY ORDINANCE AND THE INTERNATIONAL FIRE CODE (IFC) 2003.
- 4. PROVIDE KNOX LOCK EMERGENCY ACCESS:
■ KNOX BOX ■ PADLOCK □ ELECTRONIC KEYWAY OVERRIDE
- 5. SHOW ALL EXISTING FIRE HYDRANTS WITHIN 1,000 FEET.
- 6. WATER SUPPLY DATA: STATIC _____, RESIDUAL _____, GPM _____, LOCATION _____, BY _____.
- 7. THE DEVELOPER SHALL HAVE THE REQUIRED NUMBER OF FIRE HYDRANTS INSTALLED AND OPERABLE PRIOR TO THE FOOTING INSPECTION. REFLECTIVE FIRE HYDRANT STREET MARKERS SHALL BE INSTALLED WITH PAVEMENT. FIRE HYDRANT SPACING 450 Feet MAX. ON CENTER.
- 8. ALL FIRE HYDRANT CONNECTIONS/THREADS SHALL BE NATIONAL STANDARD THREADS AND MEET THE DESIGN REQUIREMENTS OF THE DEPARTMENT OF PUBLIC WORKS.
- 9. IT IS THE DEVELOPER'S RESPONSIBILITY TO DETERMINE ULTIMATE COMPLIANCE WITH THE FAIR HOUSING AMENDMENTS ACT AND THE AMERICANS WITH DISABILITIES ACT AND TO INCORPORATE SAME INTO THEIR BUILDING PLANS, i.e.: FIRE NOTIFICATION WITHIN HANDICAPPED DWELLING UNITS, AUDIOVISUAL NOTIFICATION IN COMMERCIAL BUILDINGS, ETC.

- *10. SPRINKLER SYSTEM SHALL BE INSTALLED TO COMPLY WITH THE FOLLOWING NFPA CRITERIA AND THE GILA RIVER FIRE AND LIFE SAFETY ORDINANCE AND THE INTERNATIONAL FIRE CODE (IFC 2003). PER CODE, SPRINKLER SYSTEMS MAYBE REQUIRED TO HAVE OFF-SITE CONSTANT SUPERVISION. SUBMIT DRAWINGS, REVIEWED BY MINIMUM LEVEL III NICET ET, CALCULATED (PER AREA):
 - A. NFPA 13 COMMERCIAL SYSTEM.
 - B. MODIFIED LIGHT HAZARD COMMERCIAL SYSTEM WITH FAST RESPONSE SPRINKLER HEADS.
 - C. MODIFIED 13-D SPRINKLER SYSTEM WITH FAST RESPONSE HEADS.
 - D. MODIFIED 13-R SYSTEM WITH FAST RESPONSE HEADS (CALCULATE FOUR REMOTE HEADS).
 - E. MODIFIED 13-R SYSTEM WITH FAST RESPONSE HEADS IN DWELLING UNITS PLUS ATTIC (CALCULATE FOUR REMOTE HEADS/500 SQ. FT. MINIMUM IN ATTIC) WITH EXTERIOR AUDIO-VISUAL NOTIFICATION (SEE NO.).
 - F. MODIFIED LIGHT HAZARD COMMERCIAL SYSTEM WITH QUICK RESPONSE HEADS.
 - *** G. NFPA COMMERCIAL SYSTEM, INSURER _____ OTHER _____ .
- 11. STANDPIPE SYSTEM SHALL BE INSTALLED TO COMPLY WITH NFPA 14 AND THE FIRE CODE.
- 12. WET STANDPIPES ARE REQUIRED IF FLOOR AREA EXCEEDS 10,000 SQ.FT. MAY BE PART SPRINKLER SYSTEM AND SHALL COMPLY WITH THE GILA RIVER FIRE AND LIFE SAFETY CODE AND NFPA 14.
- 13. SPRINKLER SYSTEM AND STANDPIPE SYSTEM SHALL BE PRESSURE TESTED, FLUSHED AND A LETTER SENT TO THE FIRE DEPARTMENT CONFIRMING THE COMPLIANCE WITH NFPA 13 AND NFPA 14.
- 14. THREADS ON SPRINKLER CONNECTIONS AND STANDPIPE CONNECTIONS MUST BE NATIONAL STANDARD THREADS.
- 15. SIAMESE CONNECTIONS FOR SPRINKLERS OR STANDPIPES WILL BE LOCATED AT AN APPROVED DISTANCE FROM A FIRE HYDRANT LOCATED AT A CURB LINE (SEE STANDARDS)
 - A. 4' BACK OF CURB
 - B. CALCULATED SIZE _____ MIN
 - C. WALL-MOUNTED
 - D. INDEPENDENT WET LINE
 - E. MAY BE PART OF BACKFLOW ASSEMBLY
 - F. To be located during plan review.
- 16. ALL SPRINKLER SYSTEMS ARE REQUIRED TO HAVE A DATA NAME PLATE POSTED AND MAINTAINED AT EACH RISER.

- 17. IF BACKFLOW PREVENTION IS REQUIRED BY LOCAL ORDINANCE, BACKFLOW DEVICES FOR LINES SHALL BE PART OF THE CIVIL WATER, SPRINKLER AND OR PLUMBING SITE PLANS. (INCLUDING DOMESTIC CALCULATIONS) AS APPLICABLE.
- **18. PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- **19. EXIT AND EMERGENCY LIGHTING SHALL COMPLY WITH THE FIRE AND LIFE SAFETY ORDINANCE AND THE I.F.C. PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- 20. SUBMIT M.S.D.S. SHEETS AND AGGREGATE QUANTITIES FOR ALL HAZARDOUS MATERIALS, INCLUDING FLAMMABLES, PESTICIDES, HERBICIDES, CORROSIVES, OXIDIZERS, etc. FOR ANALYSIS, STORAGE SEPARATION AND 704 EMERGENCY PLACARDING. A COMPLETED APPLICATION FOR HAZARDOUS MATERIALS PERMIT SHALL BE PROVIDED WITH BUILDING PLANS (SEE IBC & IFC = HMIS).
- *21. SUBMIT PLANS FOR FIRE ALARM SYSTEM CONSISTING OF AUDIO-VISUAL DEVICES, ACTIVATED BY THE SPRINKLER SYSTEM'S FLOW SWITCHES, ZONED THROUGH A FIRE ALARM PANEL, AND TRANSMITTED OFF SITE TO A 24- HOUR MONITORING FACILITY.
- *22. SUBMIT PLANS AND SPECIFICATION BOOKLETS FOR SUPERVISED AUTOMATIC EXTINGUISHING SYSTEM(S) FOR ALL COOKING APPLIANCES, FOR ALL COOKING APPLIANCES, HOOD PLENUMS AND EXHAUST DUCTS.
- 23. APPLICANT MUST PROVIDE THE FOLLOWING PLANS FOR THE PROPOSED PROPERTY USE.
 - A.) HAZARDOUS MATERIALS MANAGEMENT PLAN
 - B.) EMERGENCY EVACUATION PLAN
 - C.) EMERGENCY OPERATIONS PLAN
- 24. OTHER:
 - A. IF STRUCTURE ARE BUILT THEY WILL REQUIRE FIRE SPRINKLER SYSTEM AND FIRE ALARMS.

NOTES

- * 3 SETS OF COMPLETE DRAWINGS SUBMITTED BY INSTALLING CONTRACTOR, AFTER BUILDING PLAN REVIEW, PRIOR TO INSTALLATION.
- ** PRIOR TO C OF O - LOCATIONS SUBJECT TO INSPECTION, CALL (520) 796-5900 FOR PRE-INSPECTION.
- *** DEPENDENT ON BUILDING PLAN SUBMITTAL FOR PERMIT, i.e.: OCCUPANCY, COMMODITY, ETC. ✓ ■

Exhibit F

LUPZ – Native Plants

Report and Findings for the Proposed Project

Lone Butte Solar Facility

LUPZ Number 17-20559



GILA RIVER INDIAN COMMUNITY

Department of Land Use Planning & Zoning

MEMORANDUM

Main Location:
P.O. Box E
291 W. Casa Blanca Rd.
Sacaton, AZ 85147
Phone: (520) 562-6003
Fax: (520) 562-6040

Realty Services:
64 E. Pima Street
Sacaton, AZ 85147
Phone: (520) 562-5060
Fax: (520) 562-5064

Administration

**Flood Control
Engineering**

**Geographic Information
Systems**

Land Surveying

Livestock/Ordinance

Planning Development

Realty Services

**Subdivision
Administration**

TO: Wynona Baheshone, Project Manager – Planning
Department Land Use Planning & Zoning

THRU: Kimberly Antone, Director *Kim Antone*
Department of Land Use Planning & Zoning

FROM: Cody Cerna, Land Use Ordinance Officer *Cody Cerna*
Department of Land Use Planning & Zoning

DATE: August 23, 2017

SUBJECT: Land Use Action Review (LUAR)
Gila River Indian Community- Proposed Lone Butte Solar
Facility in Districts 4 & 6
LUPZ# 17-20559, LUAR-131-17, NP-198-17

A site review of the identified parcel of land located in Districts 4 & 6 was conducted on August 17, 18, 21 & 22 2017. Protected Trees and Cacti were identified; therefore, a **Native Plant Review will be required.**

If you have any questions or require any additional information, please do not hesitate to contact us.



GILA RIVER INDIAN COMMUNITY

Department of Land Use Planning & Zoning

Main Location:
 P.O. Box E
 291 W. Casa Blanca Rd.
 Sacaton, AZ 85147
 Phone: (520) 562-6003
 Fax: (520) 562-6040

ORDINANCE SECTION
NATIVE PLANT REVIEW
August 23, 2017
LUPZ # 17-20559
NP-198-17, LUAR 131-17

Project: Gila River Indian Community Utility Authority - Proposed Lone Butte Solar Facility in Districts 4 & 6

Realty Services:
 64 E. Pima Street
 Sacaton, AZ 85147
 Phone: (520) 562-5060
 Fax: (520) 562-5064

Objective

Conduct a Native Plant Review by the Department of Land Use Planning & Zoning Ordinance Section of the Gila River Indian Community (GRIC) for the **Proposed Lone Butte Solar Facility for Gila River Indian Community Utility Authority (GRICUA) in Districts 4 & 6**. The GRIC Native Plant Ordinance, (GR-03-06), is referenced for the purpose of this Native Plant Review.

Administration

Project Location

It is a parcel of land within Districts 4 & 6, Sections 19, 30, 13, 14, 23 & 24 Township 2 S & Ranges 4 E & 3 E, of the Gila River Indian Community, Maricopa County, Arizona.

Flood Control Engineering

Project Description

The project is for GRICUA Proposed Lone Butte Solar Facility in Districts 4 & 6.

Geographic Information Systems

Investigation

A project site visit was conducted by Paul Shorthair, Land Use Ordinance Officer, Wally Jones, Project Manager, and Cody Cerna, Land Use Ordinance Officer -Ordinance, Department of Land Use Planning and Zoning.

Land Surveying

Identification of Native Plants fall into two (2) categories: protected and non-protected.

Livestock/Ordinance

Findings (Protected Native Plants): Protected Trees and Cacti were found which are covered by Native Plant Ordinance, GR-03-90, Article 1, Section 1, B Section.

Planning Development

Inventory of Native Plants

Realty Services

Mesquite Tree Barrel Cactus	Numerous 29+/-
TOTAL	Numerous Protected Tress & 29+/- Protected Plants

Subdivision Administration

Findings (Non-Protected Native Plants): Various bushes that are common and predominate for the area. These non-protected native plants do not fall within the Native Plant Ordinance; GR-03-90 protected native plant listing.

Recommendations:

■ A written **Native Plant Salvage Plan** must be submitted to the Department of Land Use Planning & Zoning, attention to Paul Shorthair, Land Use Ordinance Officer, of any incidents in which Native Plants are moved, removed, altered or destroyed.

■ The **Native Plant Salvage Plan** may be forwarded to the Gila River Indian Community's Natural Resources Standing Committee through the Department of Land Use Planning & Zoning, if the Native Plants are moved and relocated outside the exterior boundaries of the Gila River Indian Community. In accordance with the Native Plant Ordinance, the **Application for Removal and Transport of Native Plants** will need to accompany the Native Plant Salvage Plan along with any appropriate fees.

■ The **Native Plant Salvage Plan** should outline if Native Plants moved will be utilized within the existing project for landscaping or relocated within the District.

Native Plant Salvage Plan for Mesquite Trees (fuel-wood):

■ A Native Plant Salvage Plan must be submitted if Native Plant trees are to be altered in any way. Removal by grubbing or taking down mesquite tree(s), for use as fuel wood, is to be done with the coordination of the local respective District. Notifying the Districts gives them the first right-of-refusal for any materials generated from the removal of the trees.

Summation

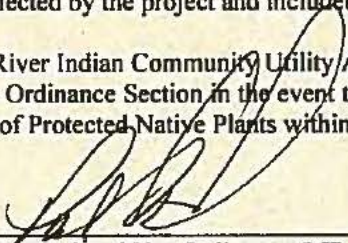
Next Steps:

◀ Gila River Indian Community Utility Authority is to submit a **Native Plant Salvage Plan** to the Department of Land Use Planning & Zoning's Land Use Ordinance Officer for the protected Native Plants, outlining the salvage process intended.

◀ The Director of the Department of Land Use Planning & Zoning will respond with concurrence and/or recommendations to the **Native Plant Salvage Plan**.

◀ Coordinate a date and time with the Department of Land Use Planning and Zoning - Ordinance Section to tag any Native Plants effected by the project and included in the Native Plant Salvage Plan.

◀ Gila River Indian Community Utility Authority will be responsible to contact the Department of Land Use Planning and Zoning - Ordinance Section in the event that any changes occur to the scope of the proposed construction area or upon any findings of Protected Native Plants within the project limits.



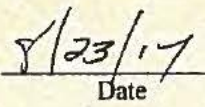
Paul Shorthair, Land Use Ordinance Officer
Department of Land Use Planning & Zoning



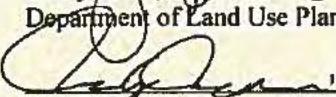
Date



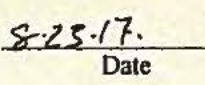
Wally Jones, Project Manager
Department of Land Use Planning & Zoning



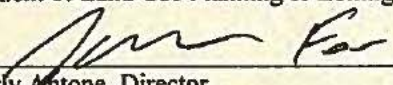
Date



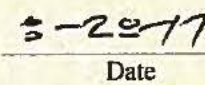
Cody Cerma, Land Use Ordinance Officer
Department of Land Use Planning & Zoning



Date



Kimberly Antone, Director
Department of Land Use Planning & Zoning



Date

Exhibit G

Pima Maricopa Irrigation Project

Report and Findings for the Proposed Project

Lone Butte Solar Facility

LUPZ Number 17-20559

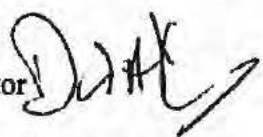


GILA RIVER INDIAN COMMUNITY

Pima-Maricopa Irrigation Project
Administration • Design • Construction • Engineering

MEMORANDUM

TO: Nona Bashone, Planner, LUPZ

FROM: David H. DeJong, Ph.D., Director 

SUBJECT: LUAR #17-20559 Lone Butte Solar site

DATE: August 24, 2017

P-MIP has evaluated the proposed temporary land use to construct a proposed GRICUA Solar site on 360 acres in District 4 on sections 19 and 30 of T2S, R4E and 600 acres in District 6 in sections 13, 14, 23, and 24 of T2S, R3E. While the original P-MIP mainstem canal system included a Westside VB, VC, VE and VF system in the Lone Butte area (east of SR 347 and then turning west on the north side of Beltline Road to serve the Lone Butte Farms, this system has been eliminated from future construction. The only impact that would have resulted would have been on the southern end of the District 4 portion of the proposed solar site.

P-MIP does remind GRICUA that the old Queen Creek ran (and there is a relict underflow) that dissects the far southwestern corner of the District 6 site and transects the District 4 site on the southern end. The lands are non-SCIP decreed lands and there is no proposed or planned agricultural development in the area. Consequently, P-MIP does not object and endorses the proposed project.

Exhibit H

Tribal Projects Development

Report and Findings for the Proposed Project

Lone Butte Solar Facility

LUPZ Number 17-20559



GILA RIVER INDIAN COMMUNITY

TRIBAL DEVELOPMENT & SERVICES DIVISION

Tribal Projects Development
291 W. Casa Blanca Road
Post Office Box 97
SACATON, AZ 85147

Phone: (520) 562-6080
Fax: (520) 562-6089/6255

MEMORANDUM

To: Wynona Baheshone, Land Use Planner

From: Howard Reno, Acting Director/Senior Project Manager

Date: August 11, 2017

RE: **LUPZ ID# 17-20559 GRICUA Utility Scale Solar Facility in District 4 & District 6**

Tribal Projects Development does not foresee any issues with Gila River Indian Community Utility Authority's (GRICUA) Land Use Action Review request in relation to developing a proposed utility scale solar facility in District 4 & District 6.

If any construction is planned on the proposed land in District 4 & 6 the Building Safety Division requires all construction documents be reviewed, approved, and stamped for building code compliance by a certified ICC Plans Examiner.

Building Safety also requires all the appropriate building permits and approvals be obtained through the Building Safety Division. A Certificate of Compliance must be obtained from Land Use Planning & Zoning Department for the official release of the building permit.

If there are any questions please contact Tribal Projects/Building Safety Office at (520) 562-6080.

Thank you

Exhibit I

GRIC Department of Transportation

Report and Findings for the Proposed Project

Lone Butte Solar Facility

LUPZ Number 17-20559



GILA RIVER INDIAN COMMUNITY

Department of Transportation

P.O. Box #97, 291 W. Casa Blanca Road, Sacaton, AZ 85147
Administration, Right-of-Way and Planning; (520) 562-6110, Fax (520) 562-6309

Maintenance, Engineering & Construction - 42 W. Pima Street; (520) 562-0950, Fax (520) 562-0957

MEMORANDUM

TO: Wynona Bahashone, Planning Manager
Land Use Planning & Zoning

FROM: Calvin Touchin, ROW Agent
GRIC DOT

THROUGH: Tim Oliver, Director T.O.
GRIC DOT

DATE: September 1, 2017

RE: GRIC DOT Comment on LUAR 17-20559 (District 4; GRICUA Request for a Land Assignment or Land Lease (to be determined) on 360 acres± in District 4, Section 19 & 30, T2S, R4E, and 640 acres± in District 6, Sections 13, 14, 23 & 24, T2S, R3E, both in Maricopa County. GRICUA plans to develop the proposed utility scale solar facility on 300 acres ± within the total 1000 acres± general area of review and assessment.

The Gila River Indian Community Department of Transportation (GRIC DOT) is providing the following Right of Way comment(s) for a Land Use Action Review as requested by Land Use Planning & Zoning.

Possible ingress/egress locations:

- Proposed site is on Tribal land, and will require legal access to cross Tribal land, and Right of Entries to access MCDOT and ADOT held ROWs.
- DOT has no Grant of Easement (GOE) for a roadway on file for any roads leading to the proposed site.
- Riggs Road is the nearest ROW to the south property line of the Solar Facility.
- Riggs Road is a MCDOT Road.
- Maricopa Road (SR347) is the nearest ROW to the east property line of the Solar Facility
- Maricopa is a ADOT Road.

If there are any questions or additional concerns, please contact our office.

Calvin Touchin
ROW Agent
GRIC DOT ROW
562-6309

Cc: Tim Oliver, Director, GRIC DOT
Dept. File

Exhibit J

Department of Environmental Quality

Report and Findings for the Proposed Project

Lone Butte Solar Facility

LUPZ Number 17-20559



GILA RIVER INDIAN COMMUNITY

Department of Environmental Quality
 Department of Environmental Quality

PO BOX 97 • SACATON, AZ 85147 • OFFICE (520) 562-2234 • FAX (520) 562-2245



ENVIRONMENTAL LAND USE ACTION REVIEW

SCOPE OF REVIEW			
The Environmental Land Use Action Review determines whether the proposed land action use impacts the Community's environmental resources. More specifically, the Department of Environmental Quality conducts an environmental review for extraordinary circumstances directly related to the responsibilities entrusted to the Department of Environmental Quality.			
TYPE OF LAND USE			
Type: Renewable Energy Infrastructure			
PROJECT INFORMATION			
Project: 17-20559 GRICUA Lone Butte Solar Site		District: 4 and 6	
Physical Address:			
County: Maricopa	State: AZ	Zip:	
Land Status: Tribal	Latitude:	Longitude:	
Section: 13, 24, 25	Township: 2S	Range: 3E	
EVALUATION OF EXTRAORDINARY CIRCUMSTANCES		Yes	No
1. This land use action will impact the conservation easement, monitoring wells, and/or groundwater wells.		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. This land use action has a history involving hazardous waste contamination, solid waste contamination, underground storage tanks, sites listed as Brownfield, and sites listed as Superfund.		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. This land use action includes multiple individually insignificant sites where the cumulative activity will contribute to or cause an exceedence of any of the environmental standards. (e.g. National Ambient Air Quality Standards).		<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. This land use action violates one or all of the following; the Air Quality Management Plan, Beehive Ordinance, Control & Suppression of the Pink Bollworm, Medical Waste Ordinance, Pesticide Ordinance, Waste Management Ordinance, and Wastewater Management Ordinance.		<input type="checkbox"/>	<input checked="" type="checkbox"/>
DETERMINATION			
Based on the evaluation, the action "does not" appear to have a significant effect on the quality of human environment and further environmental analysis and documentation "is not" required. However, solid waste was observed, site observation photolog attached. All waste should be removed according to environmental regulations.			
This determination does not exempt any requirements under the following Community ordinances, Air Quality Management Plan, Beehive Ordinance, Control & Suppression of the Pink Bollworm, Medical Waste Ordinance, Pesticide Ordinance, Waste Management Ordinance, and Wastewater Management Ordinance or any newly developed GRIC Environmental Ordinances. Should any environmental hazard be encountered under this action immediately contact the Department of Environmental Quality at (520)562-2234.			
Preparer's Stamp:		Director's Stamp:	
APPROVED By Willard Antone III at 4:44 pm, Oct 10, 2017		APPROVED By Dale Ohnmelsz at 4:55 pm, Oct 10, 2017	



PHOTOLOG

BACKGROUND INFORMATION

Date: 10-10-2017

Start Time: 12:56PM

Sky Condition: Partly Cloudy

OBSERVER(S) INFORMATION

Name: Will Antone III

Camera: Sony DCS-TF1

PHOTOGRAPH(S)











ENVIRONMENTAL AUTHORIZATIONS

STATEMENT OF AUTHORITY

The Department of Environmental Quality (DEQ) has been given the responsibility, by Community Council, for compliance and enforcement of the following ordinances; Air Quality Management Plan, Beehive Ordinance, Control & Suppression of the Pink Bollworm, Medical Waste Ordinance, Pesticide Ordinance, Waste Management Ordinance, and Wastewater Management Ordinance. All ordinances have been enacted in order to promote and protect human health, the environment, natural resources, and wildlife. These can be found at: www.gricdeq.org/about.html.

BURN PERMITS

Any person seeking to conduct residential or agricultural burning shall submit a Burn Permit Application to the Department prior to conducting burn activities.

The following types of fires are authorized by burn permits:

- Residential fires set for the disposal of leaves, lawn clippings, tree trimmings/tree limbs and other yard waste, provided that no materials that generate toxic fumes are burned (e.g., oleander leaves or branches).
- Commercial fires set for the disposal of vegetative waste resulting from the process of land clearing; commercial development or other large scale permitted fires.
- Agricultural fires set for weed control or abatement, clearing fields or ditches of vegetation, or the disposal of other naturally grown products of horticulture, provided that no materials that generate toxic fumes are burned (e.g., oleander leaves or branches).

Open burning of the following materials is forbidden:

Garbage resulting from the processing, storage, service or consumption of food, asphalt shingles, tar paper; plastic and rubber products, petroleum products (such as waste crankcase oil, transmission oil and oil filters), transformer oils, hazardous material containers including those that contained inorganic pesticides, lead, cadmium, mercury, or arsenic compounds, tires (whole, shredded or chopped), construction debris, debris from demolished homes and trailers homes, and asbestos containing materials.

EARTHMOVING PERMITS

Permits must be approved by DEQ *prior to* conducting any earthmoving operations. GRIC entities are exempt from the prescribed fees in the ordinance but are *not exempt* from submitting an Earthmoving Permit application with Dust Control Plan.

<u>Total Surface Area Disturbed</u>	<u>Fee</u>
1 acre to 10 acres	\$75.00
10 acres or greater	\$36.00 per acre <i>plus</i> \$110.00

Example: 10 acres = 10 x \$36.00 + \$110 = \$470

NESHAP NOTIFICATIONS FOR DEMOLITIONS & RENOVATIONS (ASBESTOS)

All Demolitions:

Submit 10-day notification to USEPA and DEQ

Renovations below the threshold:

No required action to the GRIC AQP

Threshold Amounts for Regulated Asbestos Containing Material for Demolitions and Renovations:

260 linear feet on pipe

160 square feet on all other surfaces

35 cubic feet if unable to measure otherwise (i.e. waste)

NON-TITLE V OPERATING PERMITS

No person shall begin actual construction of, continue to operate, or make modification to any stationary source subject to permitting without complying with the permit issuance and revision procedures of [Part II of the AQMP](#).

Stationary sources (facilities) subject to permitting include, but are not limited to:

- Any facility that emits over 1 ton annually of any criteria pollutant (NO_x, SO_x, Lead, CO, Ozone, PM₁₀).
- Any facility that emits over 1000 pounds annually of any hazardous air pollutant or 1 ton of any combination of hazardous air pollutants.
- Any facility that emits over 300 pounds annually of any ultrahazardous air pollutant or any combination of ultrahazardous air pollutants.

ENVIRONMENTAL AUTHORIZATIONS cont.

PESTICIDE USE PERMITS
Before conducting a pesticide regulated activity, owners or operators of a pest management business, growers, and seed treaters must obtain a Pesticide Use Permit by completing a Pesticide Use Permit application packet. Once a Pesticide Use Permit application packet is submitted with the required documentation and fee, the Pesticide Control Office reviews the application packet and upon approval, issues the business a Pesticide Use Permit. The Pesticide Code defines a pesticide regulated activity as: <i>“Any activity involving the use of a pesticide when that activity is regulated under this chapter. Examples of pesticide regulated activities include, but are not limited to, the production, transportation, storage, sale, use, and disposal of pesticides, pesticide containers, and pesticide devices, as well as using an animal to assist with identifying infestations or making inspections for the purpose of identifying or attempting to identify infestations.”</i>
WASTE TRANSFER STATION and COMMERCIAL RECYCLING FACILITY PERMITS
Any person who collects solid waste from off-site and consolidates or otherwise prepares the waste for transport to a processing facility or land disposal site, must obtain a transfer station operating permit. Any person, who collects, sorts, cleanses, treats, and reconstitutes solid waste or other discarded material for a commercial purpose must obtain a commercial recycling operating permit. Applications with operation and engineering plans are required. Applications must be approved by the Community Council and DEQ, and are subject to administrative hearings upon appeal. Open dumping and land-filling is prohibited. Sewage treatment sludge (biosolids) and septic tank pumpings may not be applied to or incorporated into soils. Solid waste may not be imported into the Community.
UNDERGROUND STORAGE TANKS
No person may install or operate any underground storage tank or underground storage tank system except in compliance with 40 CFR Part 280. Any notifications, submittals or reports required to be made to EPA pursuant to 40 CFR Part 280 shall simultaneously be made to DEQ.
WASTE TIRE FACILITY REGISTRATION & TRANSFER STATION PERMITS
Any person who collects handles or stores 10 to 50 waste tires at any one time, at any one location, must register with DEQ and is subject to an annual fee. Waste tire processing (treatment) is prohibited. Collection, handling and storage of more than 50 waste tires is prohibited except at permitted transfer stations. (See transfer station permits above).
MEDICAL WASTE MANAGEMENT FACILITY PERMITS
Any person operating a medical waste treatment facility including an incinerator or autoclave shall first apply for a permit. Applications with operational procedures and engineering plans are required. An annual permit fee of \$10,000 is also required. Applications are subject to public hearings and must be approved by DEQ.
RECLAIMED WATER REUSE PERMITS
A person who desires to use reclaimed water for agricultural, diversified, or industrial reuse shall receive a permit under the Wastewater Management Ordinance before conducting any reuse activities.
WASTEWATER TREATMENT FACILITY PERMITS
No person may construct or operate a wastewater treatment facility unless it is permitted under the Wastewater Management Ordinance.
WILDLIFE SURVEY (Federal requirement, DEQ in stages of drafting Community ordinance)
To ensure compliance with federal laws (such as the Migratory Bird Treaty Act and Endangered Species Act) a records review and biological survey of the proposed project area must be completed prior to work beginning. Notification of the proposed project should occur no less than one (1) month before the anticipated start date and should include: <ul style="list-style-type: none">• A brief (one paragraph) project description;• Map(s) of the project areas. Flagging of the staging/disturbance areas is required to facilitate a visual survey of the site. DEQ Wildlife staff will also conduct a records review of the area to determine if any known culturally significant and/or protected species or habitat is present. Upon completion, DEQ will issue a clearance letter which will include (if necessary) a list of avoidance, minimization, and mitigation strategies to lessen impacts to protected species or habitats identified during the review.

APPENDIX B

U.S. Department of Agriculture Form AD-1006

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request July 25, 2022				
Name of Project Lone Butte Solar		Federal Agency Involved USDA-RUS				
Proposed Land Use PV Solar w/ Battery Storage		County and State Maricopa, Arizona				
PART II (To be completed by NRCS)		Date Request Received By NRCS 08-22-2022		Person Completing Form: Emily Yulga		
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>		YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated 180214	Average Farm Size 253	
Major Crop(s) Forage, cotton, vegetables.	Farmable Land In Govt. Jurisdiction Acres: 83% % 4909591	Amount of Farmland As Defined in FPPA Acres: 22% % 1302657				
Name of Land Evaluation System Used NCCPI	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS				
PART III (To be completed by Federal Agency)		Alternative Site Rating				
		Site A	Site B	Site C	Site D	
A. Total Acres To Be Converted Directly		254.94	0	0	0	
B. Total Acres To Be Converted Indirectly		0	0	0	0	
C. Total Acres In Site		349.01	0	0	0	
PART IV (To be completed by NRCS) Land Evaluation Information						
A. Total Acres Prime And Unique Farmland		255				
B. Total Acres Statewide Important or Local Important Farmland		0				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		0.02%				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		64%				
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)		1.6				
PART VI (To be completed by Federal Agency) Site Assessment Criteria <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>		Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use		(15)	15			
2. Perimeter In Non-urban Use		(10)	10			
3. Percent Of Site Being Farmed		(20)	0			
4. Protection Provided By State and Local Government		(20)	0			
5. Distance From Urban Built-up Area		(15)	15			
6. Distance To Urban Support Services		(15)	5			
7. Size Of Present Farm Unit Compared To Average		(10)	0			
8. Creation Of Non-farmable Farmland		(10)	0			
9. Availability Of Farm Support Services		(5)	5			
10. On-Farm Investments		(20)	0			
11. Effects Of Conversion On Farm Support Services		(10)	0			
12. Compatibility With Existing Agricultural Use		(10)	5			
TOTAL SITE ASSESSMENT POINTS		160	55	0	0	0
PART VII (To be completed by Federal Agency)						
Relative Value Of Farmland (From Part V)		100	1.6	0	0	0
Total Site Assessment (From Part VI above or local site assessment)		160	55	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	56.6	0	0	0
Site Selected: Site A		Date Of Selection 8/31/2022		Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		
Reason For Selection: No alternative sites can meet the purpose and need for the project.						
Name of Federal agency representative completing this form: Kristin Miller					Date: July 25, 2022	

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

- Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, <http://fppa.nrcs.usda.gov/lesa/>.
- Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s) of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map, or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)
- Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.
- Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.
- Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.
- Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.
- Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.
2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.

Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

APPENDIX C

Eight-Step Decision-Making Process for the Lone Butte Solar Project

Eight-Step Decision Making Process
Executive Order 11988: Floodplain Management
Lone Butte Solar Project – Gila River Indian Community, Arizona

INTRODUCTION

Executive Order (EO) 11988 Floodplain Management requires federal agencies “...to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.” EO 11988, in Section 2(a), outlines an eight-step decision-making process for floodplain impacts. The Rural Utilities Service (RUS) follows this eight-step decision-making process for all actions involving new construction or substantial improvement in the floodplain.

Lone Butte Solar, LLC (Lone Butte Solar), proposes to construct a 50-megawatt solar photovoltaic generating facility and, potentially, a 50-megawatt battery energy storage system that will interconnect to the existing Lone Butte Substation (Proposed Action or project). The project occurs on approximately 355 acres of Gila River Indian Community (GRIC) tribal trust land in portions of District 4 and District 6 in Maricopa County, Arizona (see Section 1.1 of the environmental assessment [EA]). The project is located approximately 1 mile south of the proposed Wild Horse Pass Development, and the approximate geographic coordinates are Lat/Lon 33.244729, -111.995813. To ensure the Proposed Action is consistent with EO 11988, development in the floodplain is evaluated below using the eight-step decision-making process.

STEP 1 – DETERMINE WHETHER THE PROPOSED ACTION IS LOCATED IN A FLOODPLAIN

The base floodplain is the elevation of the 100-year floodplain, the area subject to a 1% chance of flooding in any given year. Similarly, the area subject to a 0.2% chance of flooding in any given year is normally called the 500-year floodplain.

The project area is mapped on FEMA Flood Insurance Rate Map panels 04013C3075L and 04013C3100L as Zone D, undetermined flood hazard, which indicates a possible risk of flooding, but the level of risk is unknown. The GRIC does not participate in the National Flood Insurance Program and no FEMA-based analysis of flood hazards has been conducted for the project area.

In lieu of FEMA-mapped floodplains, the Natural Resources Conservation Service (NRCS) flooding frequency classification for soils was used to evaluate the presence of floodplains. The NRCS provides a flooding frequency classification that categorizes the magnitude of temporary inundation caused by overflowing streams, runoff from adjacent slopes, and tides. In the absence of mapped floodplains, this flooding frequency information is used to evaluate potential impacts to floodplains (RD Instruction Subpart F Floodplain Management).

The flood frequency classes designated by the NRCS Web Soil Survey (NRCS 2023) for the project area are “None” and “Occasional.” Over 99% of the project area is mapped as None, which indicates that flooding is not probable. The remaining 0.3% is mapped as Occasional, which indicates that flooding occurs infrequently under normal weather conditions and has a 5% to 50% chance of flooding in any given year (NRCS 2023). The area of Occasional flooding corresponds with an ephemeral wash (Feature 1) which crosses near the mid-point of the project area (Figure 1). For this analysis, the area of Occasional flooding is considered the base floodplain.

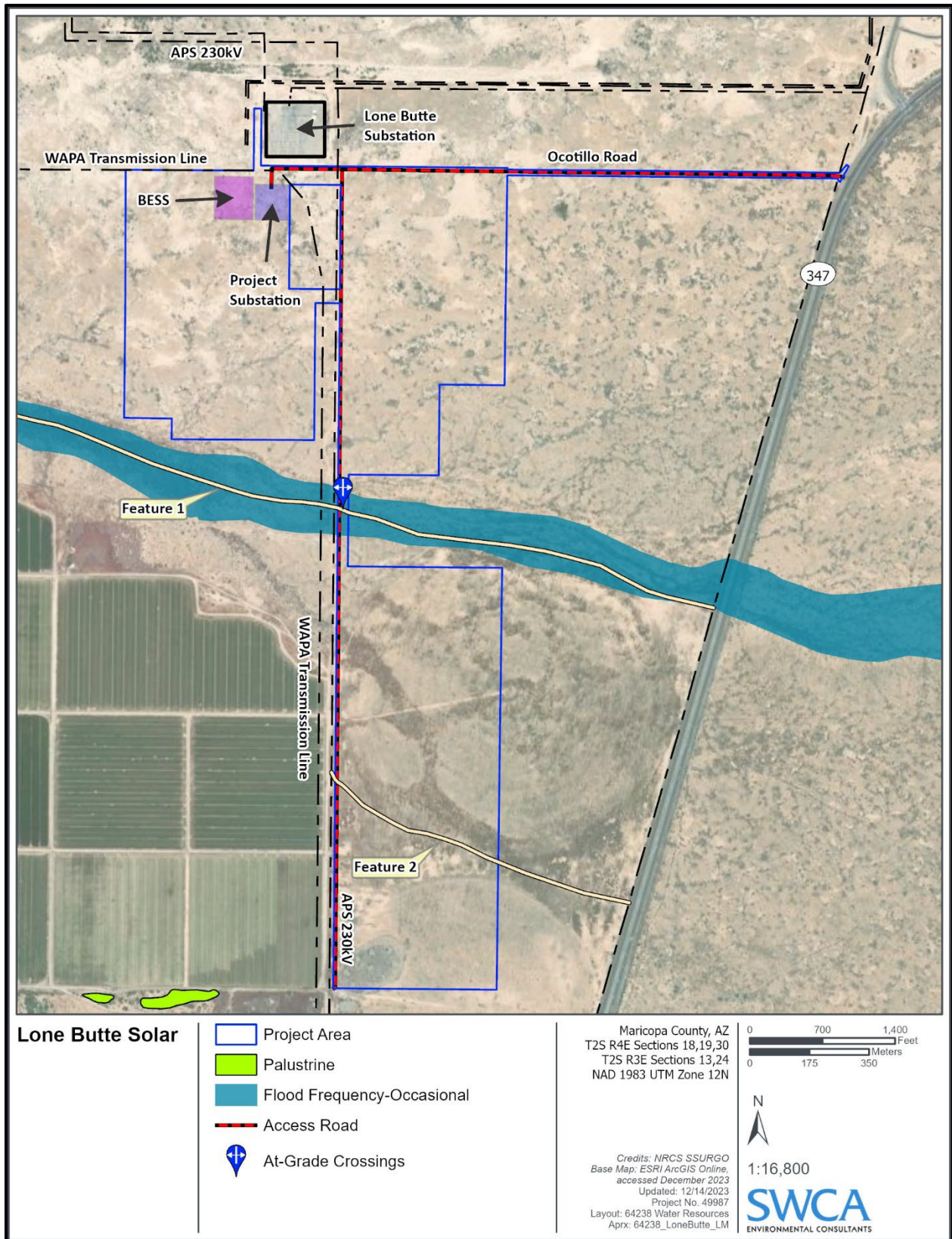


Figure 1. Project location.

A Land Use Action Review process completed by the GRIC's Land Use Planning and Zoning Flood Control Section included the results of a drainage assessment and modeling associated with the Hydrologic Engineering Center (HEC) River Analysis System (RAS) and Hydrologic Modeling System (HMS) (see Appendix A of the EA). The modeling identified the potential for flooding to occur during a 100-year, 6-hour storm event interval and is generally consistent with the Occasional flooding limits mapped by the NRCS. The results of the HEC-RAS analysis are shown in Figure 2.

No other portion of the project would encroach in this wash crossing or area of Occasional flooding or area that was identified by the HEC-RAS and HEC-HMS modeling.

STEP 2 – PRELIMINARY PUBLIC NOTICE

The publication of the Notice of Availability (NOA) for the EA will serve as the Preliminary Public Notice of RUS intent to carry out an action in a floodplain and involve the affected and interested public in the decision-making process. Interested parties will be invited to submit comments to RUS during the 14-day public comment period following publication of the NOA.

STEP 3 – SEARCH FOR PRACTICABLE ALTERNATIVES

Action Alternatives

The GRIC Utility Authority (GRICUA) conducted an initial evaluation of two sites for solar energy: 1) an approximately 360-acre site in District 4; and 2) a 640-acre site in District 6, located south and west of the Lone Butte Substation (see Section 2.0 of the EA) (see Figure 2). The initial evaluation area was identified because it contains existing electrical transmission infrastructure (i.e., the Lone Butte Substation, transmissions lines) and access to transportation infrastructure (state highways), is near the GRICUA headquarters and Wild Horse Pass Development, and is located entirely within the GRIC. The larger initial evaluation area included additional areas mapped as Occasional flooding, as well as areas of sensitive environmental resources (i.e., cultural resource sites).

The 355-acre project area evaluated for the Proposed Action is the result of the initial evaluation area being refined through design and environmental review to avoid additional impacts to areas mapped as Occasional flooding and other sensitive resources, to the extent possible.

No alternatives other than the Proposed Action were considered for further analysis due to the 355-acre project area described under the Proposed Action being the tribal trust land available from the GRIC for lease and solar energy development and because of the limited resource impacts anticipated to occur under the Proposed Action.

No Action Alternative

The No Action Alternative is not practicable because it fails to address the project need to source renewable energy to help meet the increasing demand for electricity and reduce the need for fossil fuels.

STEP 4 – IDENTIFY IMPACTS AND BENEFICIAL VALUES/FUNCTIONS

Natural floodplains provide flood risk reduction benefits by slowing runoff and storing water. Floodplains are also areas of high biological productivity. Other benefits include fish and wildlife habitat protection, flood and erosion control, groundwater recharge, and surface water quality maintenance by filtering sediment and contaminants. The base floodplain within the project area is associated with an ephemeral wash, with measurable flows only following infrequent, large-scale precipitation events. The base

floodplain within the project area provides for foraging and migratory bird habitat as well as a small area of breeding habitat for the monarch butterfly (*Danaus plexippus*). Although the natural function of the base floodplain would be impacted by the Proposed Action, impacts would be minimal and the modifications that may be made for the crossing of the base floodplain are not anticipated to impound or slow flow rates or change the flooding frequency class within the project area.

An access road is needed for construction of the Proposed Action, and for its long-term operation and decommissioning phases. Construction of the access road would impact approximately 1 acre of base floodplain in the project area (see Figure 1). The access road would be approximately 450 feet in length and 30 feet wide. The road would be unpaved through the majority of the base floodplain except where Arizona crossings are proposed at the banks of the wash. Arizona crossings are paved, at-grade, dish-shaped slabs across the drainage that would extend up each bank measuring up to 30 feet wide by 30 feet long. The Arizona crossings would provide for reliable access, allow for the continued downstream flow of floodwaters across the access road, and avoid impoundment of water above the road crossing.

The footprint of the access road would require grading that would slightly alter topography, resulting in the removal of approximately 0.32 acres of vegetation in the floodplain. The remaining floodplain area (approximately 0.68 acres) would be actively maintained by mowing or the use of herbicides or pesticides to control vegetation as necessary for the duration of the project. Construction of the access road and vegetation maintenance activities would remove or disturb all velvet mesquite (*Prosopis velutina*) and wolfberry (*Lycium* spp.) and some California barrel cactus (*Ferocactus cylindraceus*) located within the base floodplain.

During construction and operation, security floodlights may disturb or disrupt wildlife movements in and around the project area; however, as the lights would be motion activated and downward facing, the level of potential disturbance would be limited to the immediate area and for intermittent periods of time.

Along the proposed access road, an aboveground collection line would also be constructed that crosses the base floodplain. However, it is anticipated that the poles for this collection line would be located outside of the base floodplain, spanning the base floodplain to avoid impact.

No impacts on socioeconomic resources, aesthetics, cultural resources, or land use patterns are anticipated as a result of the proposed access road crossing within the base floodplain. Improvements within the base floodplain are considered a cost-effective, reliable option for providing ingress and egress across the base floodplain within the project area.

STEP 5 – MITIGATE ADVERSE IMPACTS

A detailed hydrologic and hydraulic investigation, meeting the requirements in the latest version of the Land Use Planning and Zoning Flood Control Section's Draft Drainage Design Guidance Manual would be provided to ensure that downstream areas and structures are unaffected as part of final design of the facility and prior to the issuance of permits for grading, buildings, or improvement plans. Lone Butte Solar would comply with the Draft Drainage Design Guidance Manual to reduce and minimize impacts on the floodplain to the extent practicable.

The Proposed Action has been planned to avoid and minimize impacts to the base floodplain and sensitive areas as described in Step 3. Best management practices (BMPs) as required by the National Pollutant Discharge Elimination System, construction general permit, and associated stormwater pollution prevention plan, would be implemented during construction; the BMPs would prevent spills and control sediment and pollutants from leaving the project area and would be used to prevent erosion and sedimentation and protect other floodplain values. The implementation of appropriate mitigation measures would result in minimal impact on flooding due to floodplain topography alterations during construction or stormwater runoff management during operations.

Removal of vegetation for the access road would be conducted in accordance with the GRIC Native Plant Ordinance. All suitable California barrel cactus at risk of destruction would be salvaged prior to construction. In accordance with the GRIC Native Plant Ordinance, individuals identified as suitable for salvage would be translocated from the project area to other areas in the GRIC, which will be outlined in the site-specific native plant salvage plan. Therefore, the Proposed Action would not destroy viable California barrel cactus individuals. Velvet mesquite would be removed or mowed during construction, and the wood would be made available to the GRIC. Wolfberry within the project area would be removed or mowed during construction.

STEP 6 – REEVALUATE ALTERNATIVES

The project area represents the tribal trust land available for solar energy development based on an evaluation of anticipated absence of resource issues, and existing access and proximity to GRIC infrastructure, such as the Lone Butte Substation, the GRICUA offices, and Wild Horse Pass facilities, as well as electrical transmission and transportation corridors. The project area minimizes the extent of impact to the base floodplain. In addition, although planned facilities within the Occasional flooding area would be an access road crossing, the solar photovoltaic arrays, substation, and battery energy storage system facilities would be in areas not prone to 100-year flooding, thereby minimizing the impact to the floodplain. In addition, because the Proposed Action would not significantly alter water levels nor reduce habitat in the base floodplain, construction and operation of the Proposed Action is practicable. The Proposed Action is the most practicable alternative based on the proximity of the proposed facility to existing access and GRIC infrastructure. The No Action Alternative is not practicable because it fails the need to source renewable energy to help meet the increasing demand for electricity and reduce the need for fossil fuels.

STEP 7 – FINAL PUBLIC NOTICE

A final public notice would be published with the NOA for the finding of no significant impact (FONSI). The final public notice would provide the public with a finding of the RUS' final decision that the Proposed Action is the only practicable alternative and an explanation for the significant need for the Proposed Action.

STEP 8 – IMPLEMENT PROPOSED ACTION WITH APPROPRIATE MITIGATION

Upon issuance of the FONSI/final public notice, the Proposed Action would be constructed and operated in accordance with applicable floodplain management procedures. Lone Butte Solar would obtain all required federal, state, and local building and site development permits for impacts on the floodplain before construction to preserve function and value.

Other implementation measures and mitigation are contingent on final permits/authorizations and commitments documented in the EA and FONSI.

LITERATURE CITED

Federal Emergency Management Agency (FEMA). 2023. FEMA Flood Map Service Center. FIRM Panel nos. 04013C3075L and 04013C3100L (Effective Date 10/16/2013). Available at: <https://msc.fema.gov/portal/home>. Accessed December 2023.

Natural Resources Conservation Service (NRCS). 2023. Soil Survey Geographic Database. . Available at: <https://data.nal.usda.gov/dataset/soil-survey-geographic-database-ssurgo>. Accessed December 2023.

APPENDIX D

Agency and Consulting Party Correspondence

From: Rice, Jesse M CIV USARMY CESPL (USA) <Jesse.M.Rice@usace.army.mil>
Sent: Thursday, October 27, 2022 1:54 PM
To: Ian A. Shavitz <Ishavitz@lippes.com>
Cc: Javier Ramos <Javier.Ramos@gric.nsn.us>; Bartley.Harris.OGC@gric.nsn.us
Subject: SPL-2022-00449: Lone Butte Solar Project

Dear Mr. Shavitz,

I am responding to your August 12, 2022 submittal of a report titled 'Aquatic Resources Assessment for the Lone Butte Solar Project in Maricopa County, Arizona,' dated April 2022 (File No. SPL-2022-00449). The proposed project is located on the Gila River Indian Community near the city of Phoenix, Maricopa County, Arizona (Latitude 33.23748°, Longitude -110.99511°).

Based on our review of the report, the delineated boundaries of the aquatic features in the review area are a reasonable representation of the aquatic resources located onsite and we concur with the overall findings of the report. However, Regulatory Guidance Letter 16-01 states that the Corps generally does not issue a jurisdictional determination (JD) of any type where no JD has been requested. As confirmed via email with you, no JD is being requested for the aquatic resources evaluated in the report provided. Therefore, this email should not be interpreted as a determination of geographic jurisdiction under Section 404 of the Clean Water Act.

This information is sufficient for planning and permitting purposes with our office. Unless otherwise requested, no further correspondence will be forthcoming regarding this request.

Thank you for participating in the regulatory program. If you have any questions, please feel free to contact me.

Sincerely,

Jesse Rice

Senior Regulatory Project Manager
Regulatory Division, Arizona Branch
Los Angeles District, U.S. Army Corps of Engineers
Phoenix, AZ

Email: Jesse.M.Rice@usace.army.mil
Office: 602-230-6854 Cell: 602-908-8028



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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: 2023-0101053
Project Name: Lone Butte Solar Project

July 05, 2023

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

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: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.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/law/bald-and-golden-eagle-protection-act> and <https://www.fws.gov/program/eagle-management>).

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/program/migratory-bird-permit>. 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/media/recommended-best-practices-communication-tower-design-siting-construction-operation>.

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 about refuge resources, please visit [this link](#) or visit <https://www.fws.gov/program/national->

[wildlife-refuge-system](#) 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 928/556-2118 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/

Heather Whitlaw
Field Supervisor
Attachment

Attachment(s):

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

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

PROJECT SUMMARY

Project Code: 2023-0101053
Project Name: Lone Butte Solar Project
Project Type: Federal Grant / Loan Related
Project Description: Proposal to construct a new 50-megawatt solar facility and interconnection with the existing Lone Butte Substation located adjacent to the north of the project area.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@33.2764898,-112.76812417315936,14z>



Counties: Maricopa County, Arizona

ENDANGERED SPECIES ACT SPECIES

There is a total of 20 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
Mexican Wolf <i>Canis lupus baileyi</i> Population: U.S.A. (portions of AZ and NM)see 17.84(k) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3916	Experimental Population, Non- Essential
Ocelot <i>Leopardus (=Felis) pardalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4474	Endangered
Sonoran Pronghorn <i>Antilocapra americana sonoriensis</i> Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4750	Endangered
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
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Mexican Spotted Owl <i>Strix occidentalis lucida</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. Your location overlaps 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 overlaps 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

FISHES

NAME	STATUS
Desert Pupfish <i>Cyprinodon macularius</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/7003	Endangered
Gila Chub <i>Gila intermedia</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/51	Endangered
Gila Topminnow (incl. Yaqui) <i>Poeciliopsis occidentalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1116	Endangered
Gila Trout <i>Oncorhynchus gilae</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/781	Threatened
Razorback Sucker <i>Xyrauchen texanus</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/530	Endangered
Spikedace <i>Meda fulgida</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/6493	Endangered
Woundfin <i>Plagopterus argentissimus</i> Population: Gila R. drainage, AZ, NM No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/49	Experimental Population, Non- Essential

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Acuña Cactus <i>Echinomastus erectocentrus</i> var. <i>acunensis</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5785	Endangered
Arizona Cliffrose <i>Purshia</i> (= <i>Cowania</i>) <i>subintegra</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/866	Endangered
Nichol's Turk's Head Cactus <i>Echinocactus horizonthalonius</i> var. <i>nicholii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5343	Endangered

CRITICAL HABITATS

There are 5 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Acuña Cactus <i>Echinomastus erectocentrus</i> var. <i>acunensis</i> https://ecos.fws.gov/ecp/species/5785#crithab	Final
Mexican Spotted Owl <i>Strix occidentalis lucida</i> https://ecos.fws.gov/ecp/species/8196#crithab	Final
Razorback Sucker <i>Xyrauchen texanus</i> https://ecos.fws.gov/ecp/species/530#crithab	Final
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> https://ecos.fws.gov/ecp/species/6749#crithab	Final
Yellow-billed Cuckoo <i>Coccyzus americanus</i> https://ecos.fws.gov/ecp/species/3911#crithab	Final

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.

The following FWS National Wildlife Refuge Lands and Fish Hatcheries lie fully or partially within your project area:

FACILITY NAME	ACRES
GILA RIVER WATERFOWL MANAGEMENT AREA https://www.fws.gov/refuges/profiles/index.cfm?id=10756	6,499.8

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](#).

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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
Bald Eagle <i>Haliaeetus leucocephalus</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.	Breeds Oct 15 to Aug 31
Bendire's Thrasher <i>Toxostoma bendirei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9435	Breeds Mar 15 to Jul 31

NAME	BREEDING SEASON
<p>Black Skimmer <i>Rynchops niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234</p>	Breeds May 20 to Sep 15
<p>Black-chinned Sparrow <i>Spizella atrogularis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9447</p>	Breeds Apr 15 to Jul 31
<p>Black-throated Gray Warbler <i>Dendroica nigrescens</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds May 1 to Jul 20
<p>Chestnut-collared Longspur <i>Calcarius ornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p>Clark's Grebe <i>Aechmophorus clarkii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Jun 1 to Aug 31
<p>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</p>	Breeds Jan 15 to Jun 10
<p>Elegant Trogon <i>Trogon elegans</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 1 to Aug 31
<p>Evening Grosbeak <i>Coccothraustes vespertinus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 15 to Aug 10
<p>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</p>	Breeds Apr 1 to Aug 31
<p>Gilded Flicker <i>Colaptes chrysoides</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2960</p>	Breeds May 1 to Aug 10
<p>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</p>	Breeds Jan 1 to Aug 31

NAME	BREEDING SEASON
<p>Grace's Warbler <i>Dendroica graciae</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds May 20 to Jul 20
<p>Lawrence's Goldfinch <i>Carduelis lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464</p>	Breeds Mar 20 to Sep 20
<p>Le Conte's Thrasher <i>toxostoma lecontei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8969</p>	Breeds Feb 15 to Jun 20
<p>Lewis's Woodpecker <i>Melanerpes lewis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408</p>	Breeds Apr 20 to Sep 30
<p>Long-eared Owl <i>asio otus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631</p>	Breeds Mar 1 to Jul 15
<p>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</p>	Breeds elsewhere
<p>Mexican Whip-poor-will <i>Antrostomus arizonae</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Aug 20
<p>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</p>	Breeds elsewhere
<p>Olive-sided Flycatcher <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914</p>	Breeds May 20 to Aug 31
<p>Red-faced Warbler <i>Cardellina rubrifrons</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Jul 15
<p>Rufous-winged Sparrow <i>Aimophila carpalis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Jun 15 to Sep 30

NAME	BREEDING SEASON
Sprague's Pipit <i>Anthus spragueii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere
Varied Bunting <i>Passerina versicolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 25 to Sep 30
Virginia's Warbler <i>Vermivora virginiae</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9441	Breeds May 1 to Jul 31
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

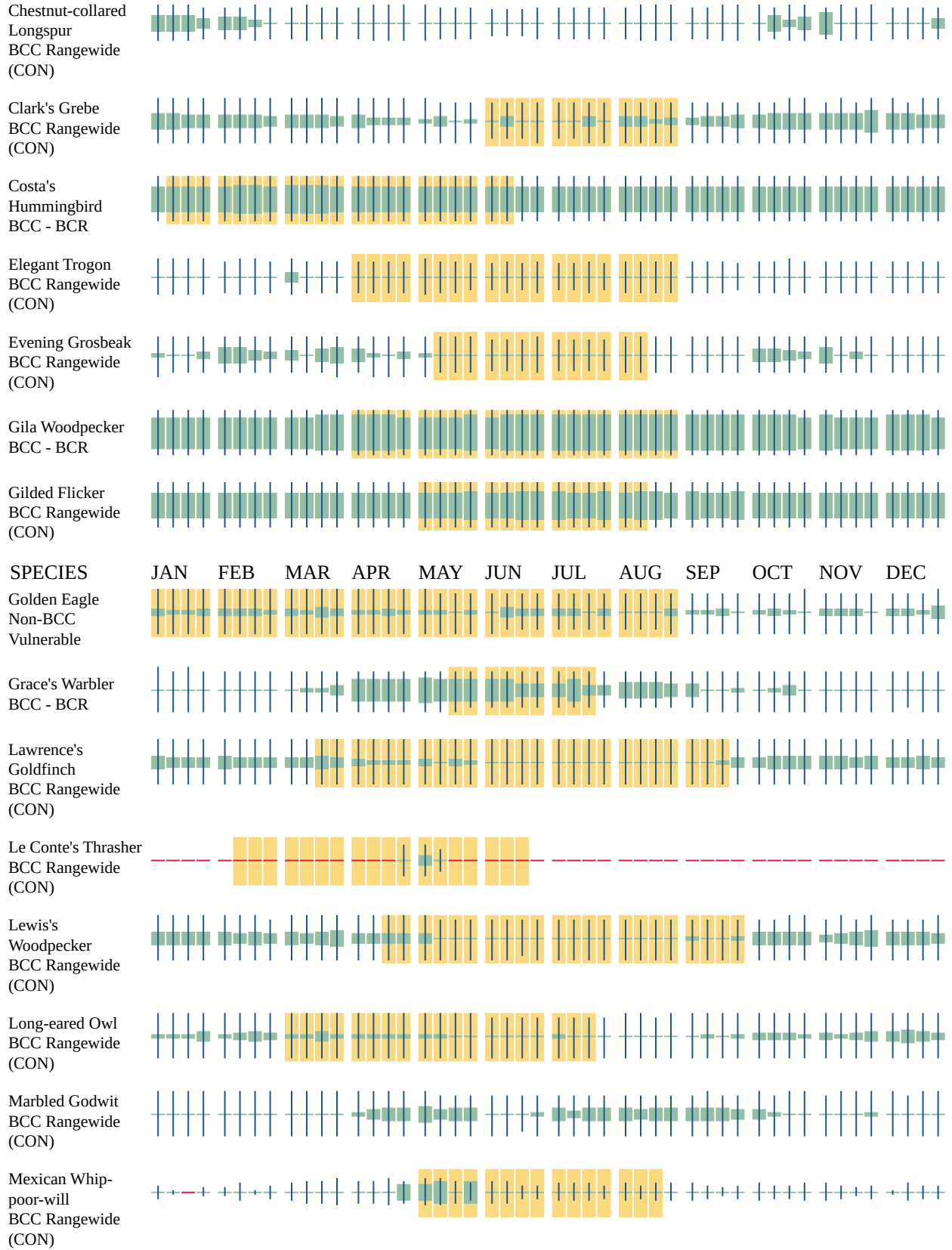
The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation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

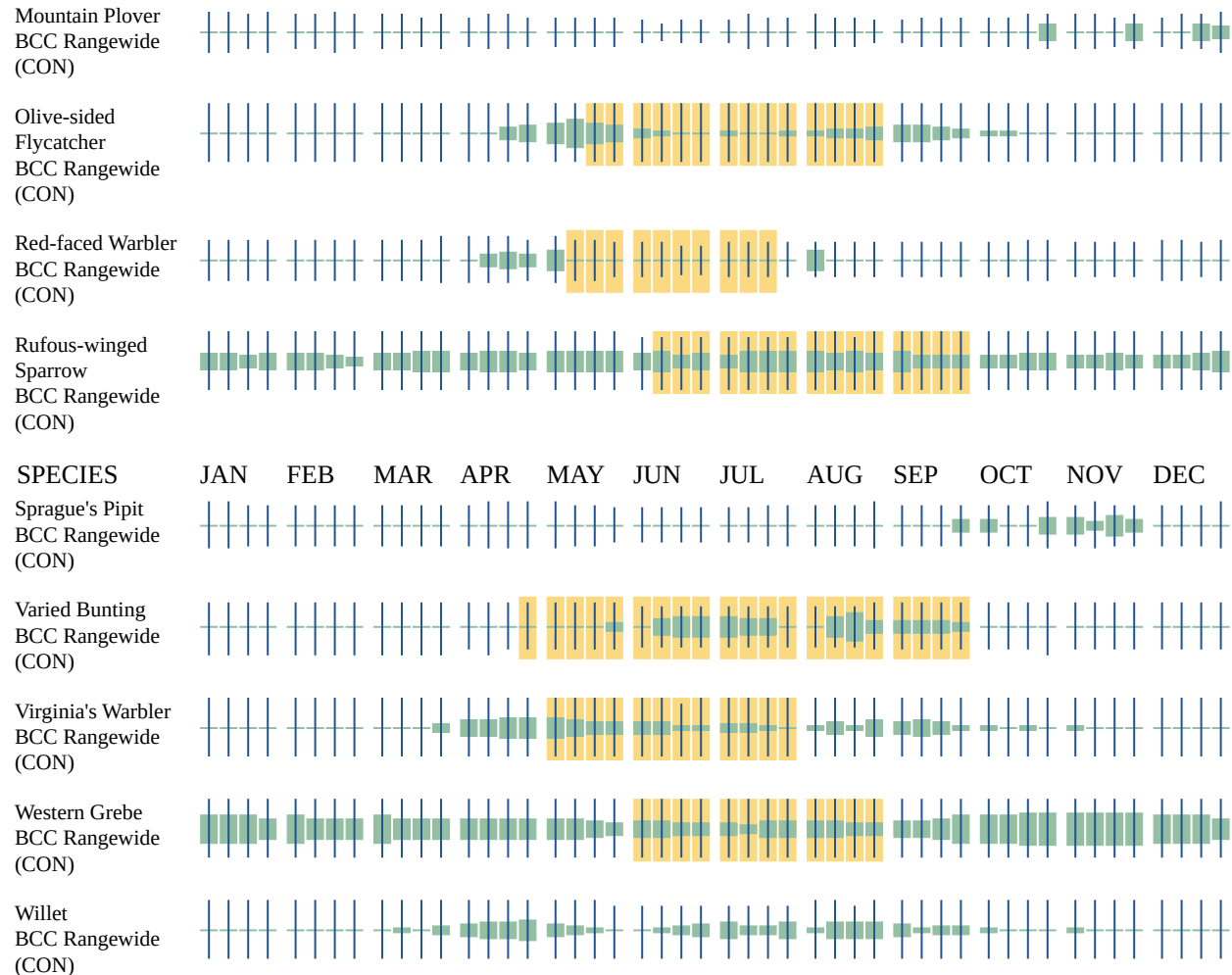
Probability of Presence (■)

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.
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





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-incident-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 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 Rangelwide" 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 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.

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.

Due to your project's size, the list below may be incomplete, or the acreages reported may be inaccurate. For a full list, please contact the local U.S. Fish and Wildlife office or visit <https://www.fws.gov/wetlands/data/mapper.HTML>

FRESHWATER FORESTED/SHRUB WETLAND

- [PSS1B](#)
- [PFO1A](#)
- [PSSC](#)
- [PFOC](#)
- [PSS](#)
- [PSS1A](#)

FRESHWATER POND

- [PAB3H](#)
- [PUB](#)
- [PUBF](#)

LAKE


- [L1UBH](#)
- [L2UBH](#)
- [L2USC](#)
- [L2EM2F](#)
- [L2UBFh](#)
- [L1UBHh](#)

FRESHWATER EMERGENT WETLAND

- [PEM1C](#)
-

IPAC USER CONTACT INFORMATION

Agency: Department of Agriculture
Name: Lyndsey Bradshaw
Address: 20 East Thomas Road
Address Line 2: Suite 1700
City: Phoenix
State: AZ
Zip: 85012
Email: lyndsey.bradshaw@swca.com
Phone: 5755202411



Aquatic Resources Assessment for the Lone Butte Solar Project in Maricopa County, Arizona

APRIL 2022

PREPARED FOR
Clēnera LLC

PREPARED BY
SWCA Environmental Consultants

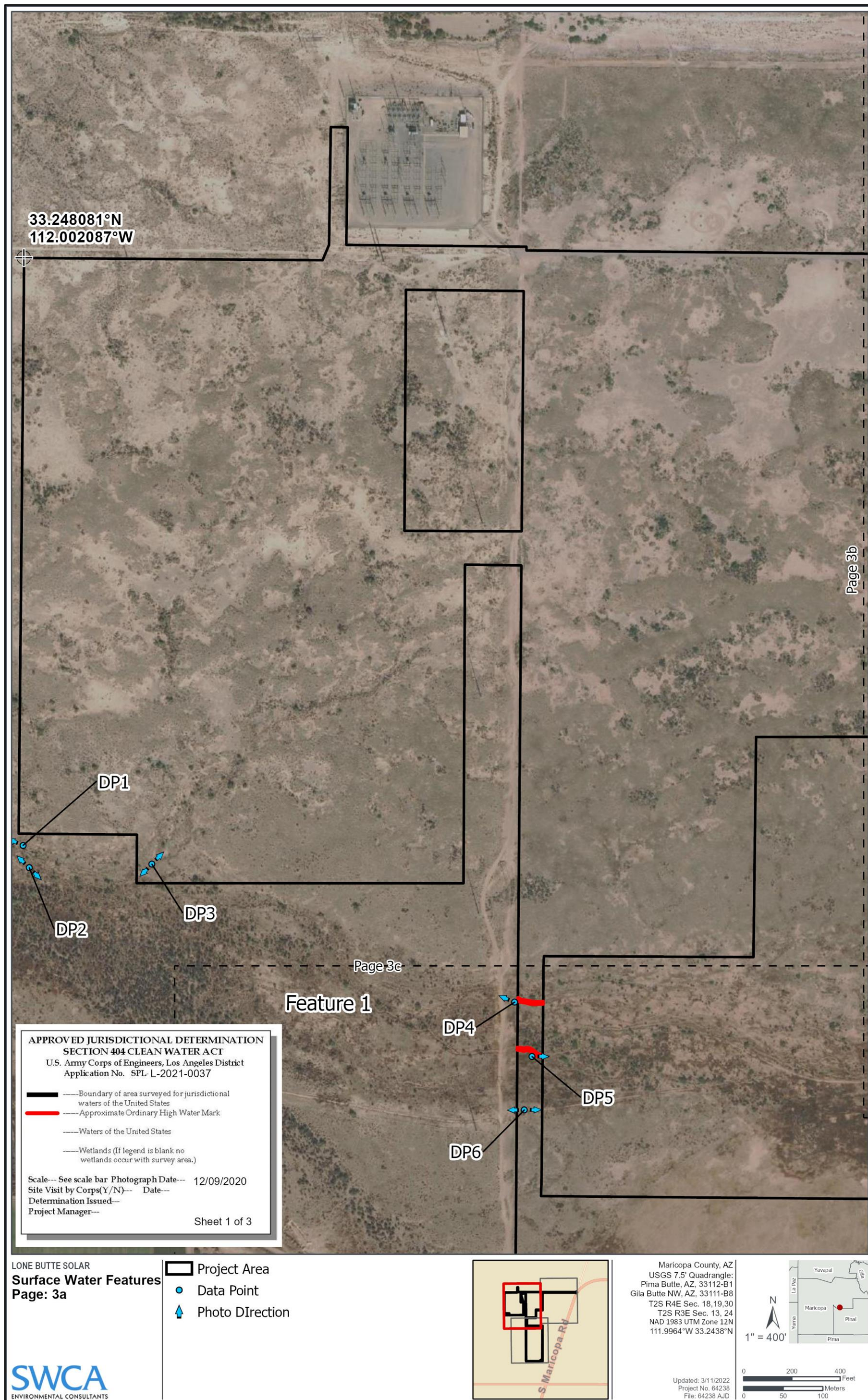


Figure 3a. Aerial photograph showing surface water features with OHWMs – northwest area.

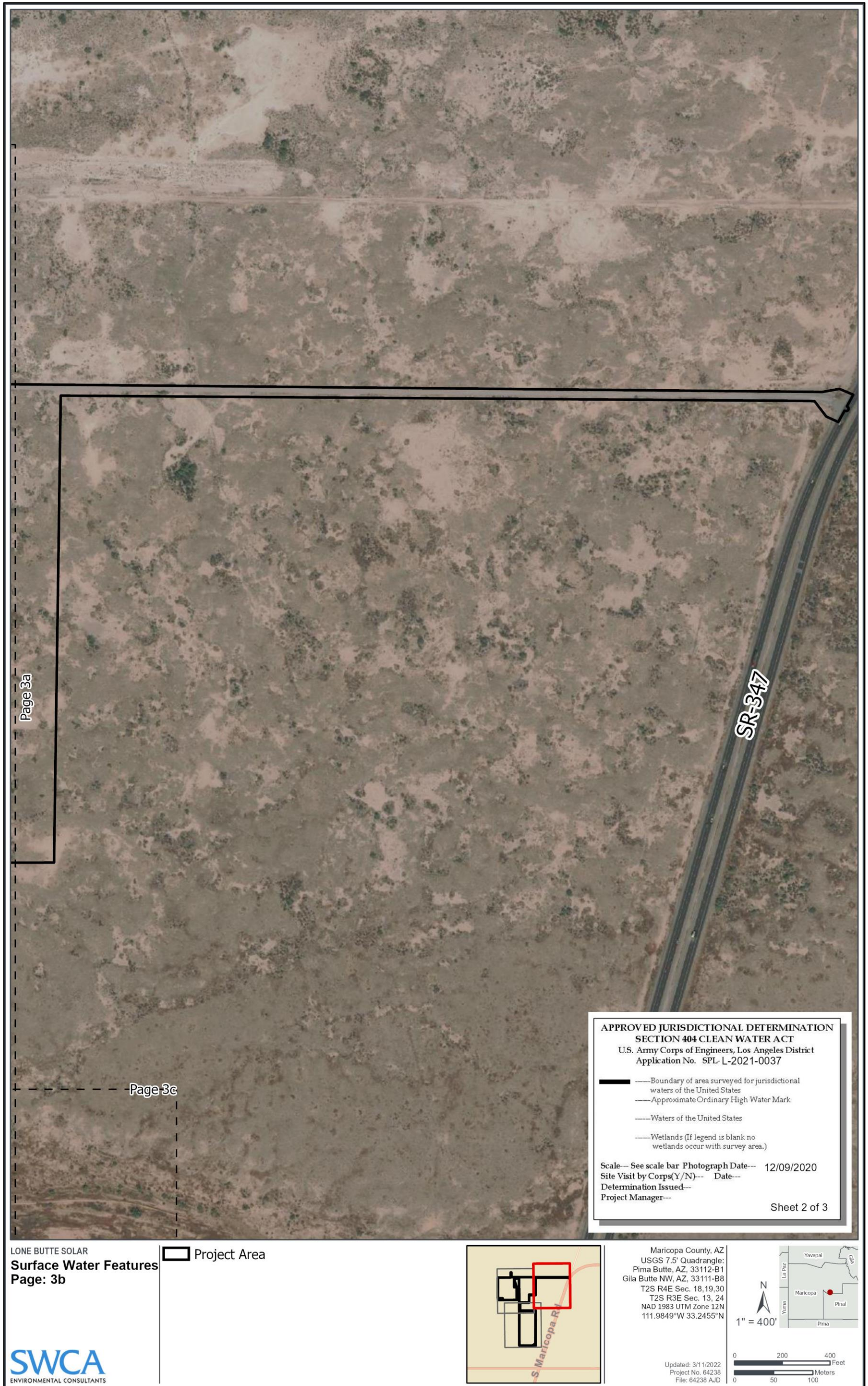


Figure 3b. Aerial photograph showing surface water features with OHWMs – northeast area.

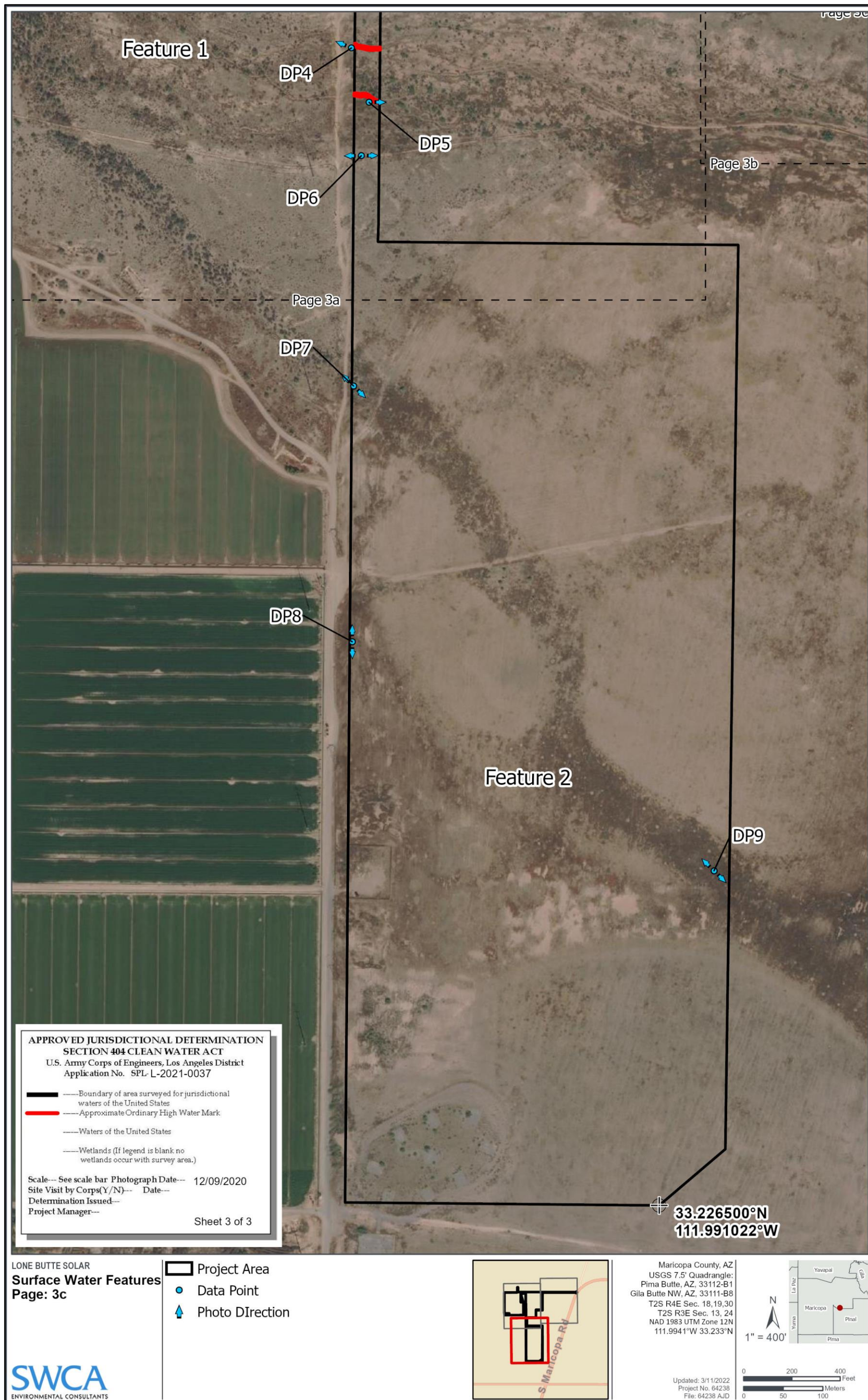


Figure 3c. Aerial photograph showing surface water features with OHWMs – south area.

APPENDIX E

**Gila River Indian Community Tribal Historic Preservation Office
Concurrence Letter**



GILA RIVER INDIAN COMMUNITY

POST OFFICE BOX 2193, SACATON, AZ 85147

TRIBAL HISTORIC PRESERVATION OFFICE

(520) 562-7162

Fax: (520) 562-5083

CRMP PROJECT REPORT THPO CONSULTATION SHEET

Report Title: Class I Cultural Resource Inventory for a Proposed GRICUA, Clenera LLC – Lone Butte Solar Energy Plant in Districts 4 and 6, on the Gila River Indian Community, Maricopa County, Arizona (REVISED)

Report No: CTR 2021-34 Project No. 2021.17x1 Date Submitted: 11/23/2021

Author: Brian R. Huttick Director: M. Kyle Woodson

I concur with the recommendations regarding the impact to cultural resources provided in the attached report. Project clearance for archaeological concerns is granted on provision that management recommendations are followed.

Comments:

Concur

Do Not Concur

Date 11-23-2021

Barnaby V. Lewis
Tribal Historic Preservation Officer
Gila River Indian Community
Sacaton, Arizona