SECTION 2: PROJECT DESCRIPTION

This Environmental Impact Report (EIR) analyzes the potential environmental effects of the proposed Environmental Education and Sustainability Park Project in Yolo County, California.

2.1 - Project Background

Yolo County has long been making strides towards environmental stewardship and conservation. In 1982, Yolo County adopted an Energy Plan, one of the first of its kind. In 2007, Yolo County became one of 12 charter members from throughout the country to sponsor the Cool Counties Initiative, in which the County pledged collectively to reduce greenhouse gas (GHG) emissions by 80 percent by 2050. Also in 2007, the County organized local cities, special districts, and UC Davis to form the Yolo County Climate Change Compact, providing an ongoing forum for exchanging information on how best to analyze and address greenhouse gas emissions. The County's 2030 General Plan contains more than 350 policies that deal with climate change. In March 2011, the County's Climate Action Plan was adopted and fulfills the requirements of state legislation, including Assembly Bill 32, Senate Bills 97 and 375, and Executive Order S-3-05. The goal of the Climate Action Plan is to reduce GHG emissions to 1990 levels by 2020 and to 80 percent below 1990 levels by 2050, along with associated interim goals for years 2030 and 2040. One of the several measures proposed to assist achievement of this target include the increased use of renewable energy and renewable energy production.

In concert with the Climate Action Plan, Yolo County is proposing to implement a solar power and environmental education project consisting of two separate sites. The first site, the Grasslands site, is proposed to be located at the Grasslands Regional Park, south of the City of Davis. The second site, the Beamer/Cottonwood site, is proposed to be located adjacent to existing County facilities at the County's Beamer/Cottonwood Campus in the City of Woodland. Background information for each site is discussed separately below.

2.1.1 - Grasslands Regional Park

Grasslands Regional Park (Park) is a 323-acre park located 3.5 miles south of Davis. The park was originally part of McClellan Air Force Base (AFB)'s Davis Global Communications site, and was deeded to the County in 1972 under the Federal Lands to Park (FLP) Program. The 315 acres adjacent to the east of Grasslands Regional Park, known as the Davis Global Communications site, are still owned by the federal government. The Davis Global Communications has been ceremoniously deeded to the County of Yolo for expansion of Grasslands Regional Park; however, Yolo County has yet to officially assume ownership of the site. Ultimately, Grasslands Regional Park will be expanded to approximately 638 acres after incorporation of the Davis Global Communications site. Evaluation of the deeding of the Davis Global Communication site to Yolo County was evaluated under CEQA in the McClellan Air Force Base Programmatic Environmental Impact

Statement/Environmental Impact Report completed in July 1997 (State Clearinghouse Number 96122010) and is not further discussed herein.

In the transfer deed for Grasslands Regional Park, the property was designated as a "park or recreation area, for use by the general public." The deed includes restrictive covenants, and the federal government retains a reversionary interest in the land if the terms of the deed are not fulfilled. The FLP program assures continued public access and stewardship of resources. Land acquired through the FLP Program must be used for public park and recreational use in perpetuity.

Portions of Grasslands Regional Park are currently used by the Sacramento Valley Soaring Society for model airplane gliding, the Yolo Bowmen Archery Range, and other recreational functions including wildlife viewing, a burrowing owl preserve, horseshoe pitching, oak woodland management and habitat, and native grass restoration.

The Grasslands Park Master Plan (Master Plan) was completed in 2005 and identifies provisions for improved general public use of the park, including trails, fencing to define safe use areas, environmental education opportunities, interpretive elements, and environmental restoration. The Master Plan currently includes plans for future trails in the Park's northern portion. However, as a result of the burrowing owl preserve, such uses are no longer considered optimal, as they would not provide sufficient buffer space from the proposed trails. Furthermore, use of the northern portion of the park must be carefully planned so as not to create the potential for conflicts with the existing archery range uses. Accordingly, the park's northern area has not yet been developed.

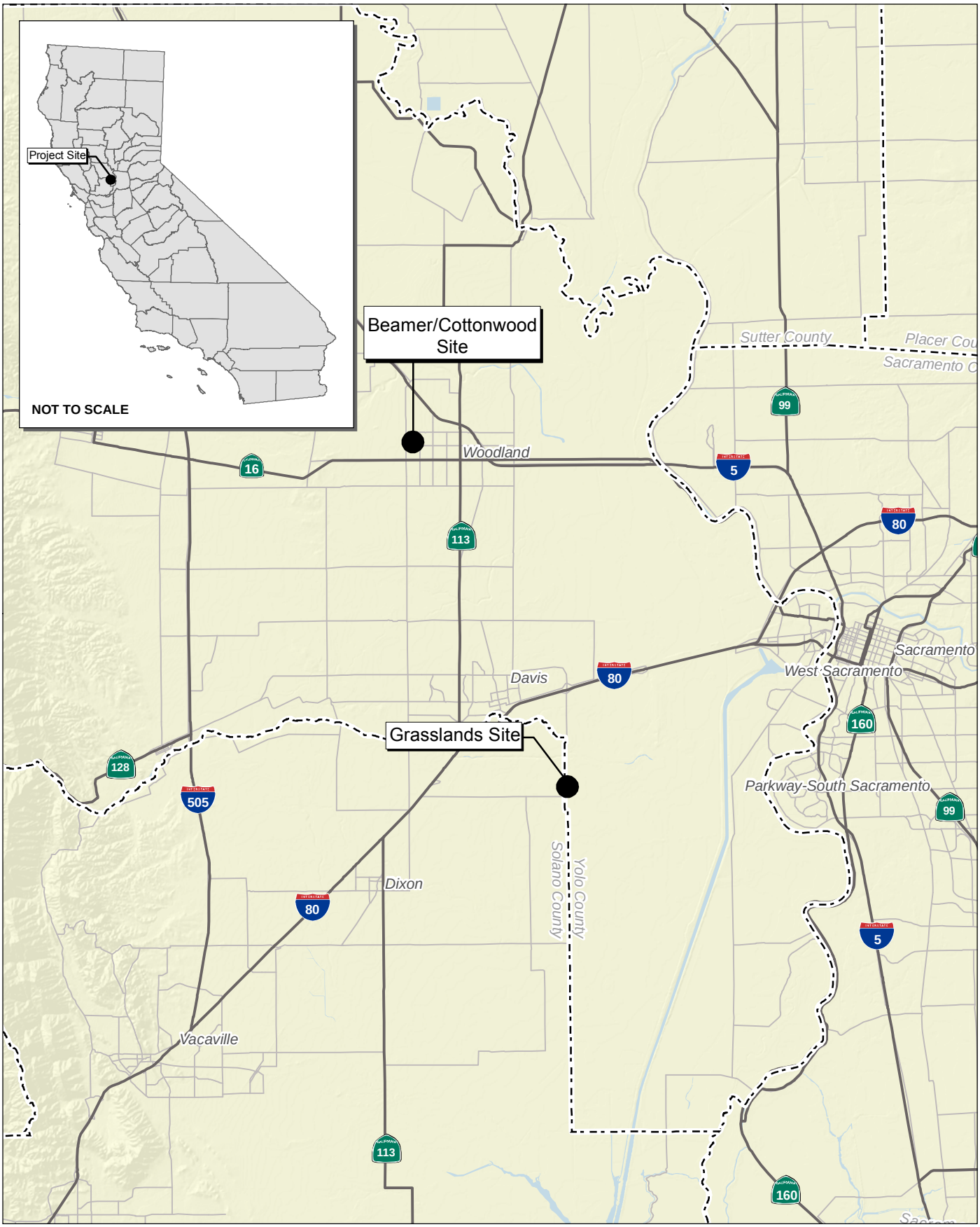
In consideration of the site constraints and consistent with the Master Plan's environmental education component, Yolo County is proposing to develop an Environmental Education and Sustainability Park centered around the proposed 5-megawatt (MW) photovoltaic (PV) solar array in the northwestern corner of the park.

2.1.2 - Beamer/Cottonwood Campus

The Beamer/Cottonwood Campus in the City of Woodland consists of several County-owned buildings that house County facilities and services such as the Yolo County Health Department, and Department of Employment and Social Services. The majority of the Beamer/Cottonwood Campus is developed with the exception of a 6.53-acre area in northwestern corner of the campus at the southeast corner of Ashley Drive and Woodland Avenue.

2.2 - Project Location and Setting

The project consists of two separate sites: the Grasslands site, and the Beamer/Cottonwood site. The regional location of each site is provided in Exhibit 2-1.



Source: Census 2000 Data, The CaSIL, MBA GIS 2012.

Michael Brandman Associates

NORTH

5 2.5 0 5 Miles

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Exhibit 2-1
Regional Location Map

YOLO COUNTY DEPARTMENT OF GENERAL SERVICES
ENVIRONMENTAL EDUCATION AND SUSTAINABILITY PARK PROJECT
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2.2.1 - Grasslands Site

The Grasslands site is located at 30475 County Road 104, approximately 2.5 miles south of the City of Davis (Exhibit 2-1). The Grasslands site consists of approximately 41 acres of undeveloped land within the 156.49-acre Assessor's Parcel Number (APN) 033-130-03. The Grasslands site is located within 323-acre Yolo County's Grasslands Regional Park at the southeastern corner of the intersection of Mace Boulevard/County Road 104 and County Road 35 (Exhibit 2-2).

The Grasslands site is generally bounded by County Road 35 and agricultural land (north); the burrowing owl conservation area (east); Yolo Bowmen Archery Range and Sacramento Valley Soaring Society Flying Field (south); and Mace Boulevard/County Road 104 and agricultural land (west) (Exhibit 2-4). The Grasslands site is located approximately:

- 1.0 mile south of South Fork Putah Creek
- 3.0 miles west of Yolo Bypass Wildlife Area
- 2.5 miles south of the City of Davis
- 0.25 mile north of the Grasslands Regional Park entrance at Tremont Road
- Immediately east of the Yolo County/Solano County boundary

The Grasslands site is designated as Open Space (OS) by the County of Yolo General Plan, and is within the Agricultural General (A-1) zoning classification. Utility polls span the northern and western edges of the site. The vegetation onsite consists of native and non-native grasses, wildflowers, and several small trees located at the northwest corner of the site. The Grasslands site is relatively flat and undeveloped, and periodically utilized for grazing.

2.2.2 - Beamer/Cottonwood Site

The Beamer/Cottonwood site is located at southeastern corner of Ashley Drive and Woodland Avenue in the City of Woodland. The Beamer/Cottonwood site consists of an approximate 6.53 acres of APN 064-010-32 (Exhibit 2-3). The solar facility would be located on the eastern 2 acres of the Beamer/Cottonwood site.

The Beamer/Cottonwood site is generally bounded by Woodland Avenue and a residential neighborhood (north); Yolo County Health Department building (east); Yolo County Department of Employment and Social Services building and JPA building (southeast); the County Corporation Yard (south); and Ashley Drive and a residential neighborhood (west) (Exhibit 2-5). The Beamer/Cottonwood site is located approximately:

- 0.16 mile north of Rhoda Maxwell Elementary School and Greengate School
- 0.25 mile north of Harris Park
- 0.33 mile west of Woodland High School

The Beamer/Cottonwood site is designated as Public Service (PS) by the City of Woodland General Plan, and is classified as Single-Family Zone (R-1). The vegetation onsite consists of native and non-

native grasses, and two small trees and a single valley elderberry bush on the southwest boundary of the project. The valley elderberry bush is located approximately 135 feet west and outside of the solar array's security fence. The site is regularly maintained, and was mowed in late June or early July 2012.

2.3 - Project Description

The project consists of the development of a 5-MW PV solar array on approximately 21 acres at the Grasslands site and a 0.8-MW PV solar array on approximately 2 acres at the Beamer/Cottonwood Site. The Grasslands site will also consist of multiple components that constitute the Environmental Education and Sustainability Park, including an environmental education center (EEC) to be used for educational fieldtrips for K-12 students of Yolo County. Each site is discussed separately below.

2.3.1 - Grasslands Site Improvements

The Grasslands site improvements generally consist of a environmental education center (EEC) modular building, a park host site, a wildlife viewing area, walking trails, a 5-MW solar facility on approximately 21 acres, and a potential conservation area (Exhibit 2-6). Together, these components comprise the Environmental Education and Sustainability Park, a subcomponent of the Grasslands Regional Park. The solar facility and EEC would allow for increased recreational and education opportunities within the Park while providing a buffer area for the adjacent burrowing owl conservation easement. A walking path and interpretive signs would provide information related to the solar facility, the surrounding natural habitat, and the burrowing owl preserve.

Site Access

Vehicular site access for the park host site, EEC building and solar facility would be provided from County Road 35 along the northern boundary of the project site. As shown on Exhibit 2-6, two access roads would start at County Road 35, extend south through the solar facility, and connect to create a looped circulation route. Each access road would also have sufficient space to accommodate school bus turning radii south of the solar facility. Parking accommodations for the EEC would consist of parallel parking provided along the southern portion of the looped access road. As shown in Exhibit 2-6, pedestrian access would be provided via trials connecting the EEC, park host site, and wildlife viewing area. In addition, a trail may be provided connecting to an existing informal trail within the developed portion of Grasslands Regional Park. The existing informal trail would connect the EEC to the existing gravel parking lot near the main entrance to Grasslands Regional Park. The trail would be routed to avoid conflicts with the existing archery range activities.

Park Host Site

The park host site would consist of a concrete pad of less than 500 square feet, and provide typical park host amenities including electrical hook up, a small septic system connection, and potable water connection. These amenities would be utilized by the park host's personal travel trailer. Park hosts would be hired by Yolo County and would remain onsite anywhere from 6 to 12 months per year. Park hosts would monitor activities at the EEC and provide general park information services.

Source: ESRI Aerial, MBA Field Survey and GIS Data, 2012.

Exhibit 2-2
Local Vicinity Map - Aerial Base
Grasslands Site

NORTH
1,000 500 0 1,000
Feet

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Source: ESRI Aerial, MBA Field Survey and GIS Data, 2012.

Exhibit 2-3
Local Vicinity Map - Aerial Base
Beamer-Cottonwood Site

Michael Brandman Associates

NORTH

1,000 500 0 1,000 Feet

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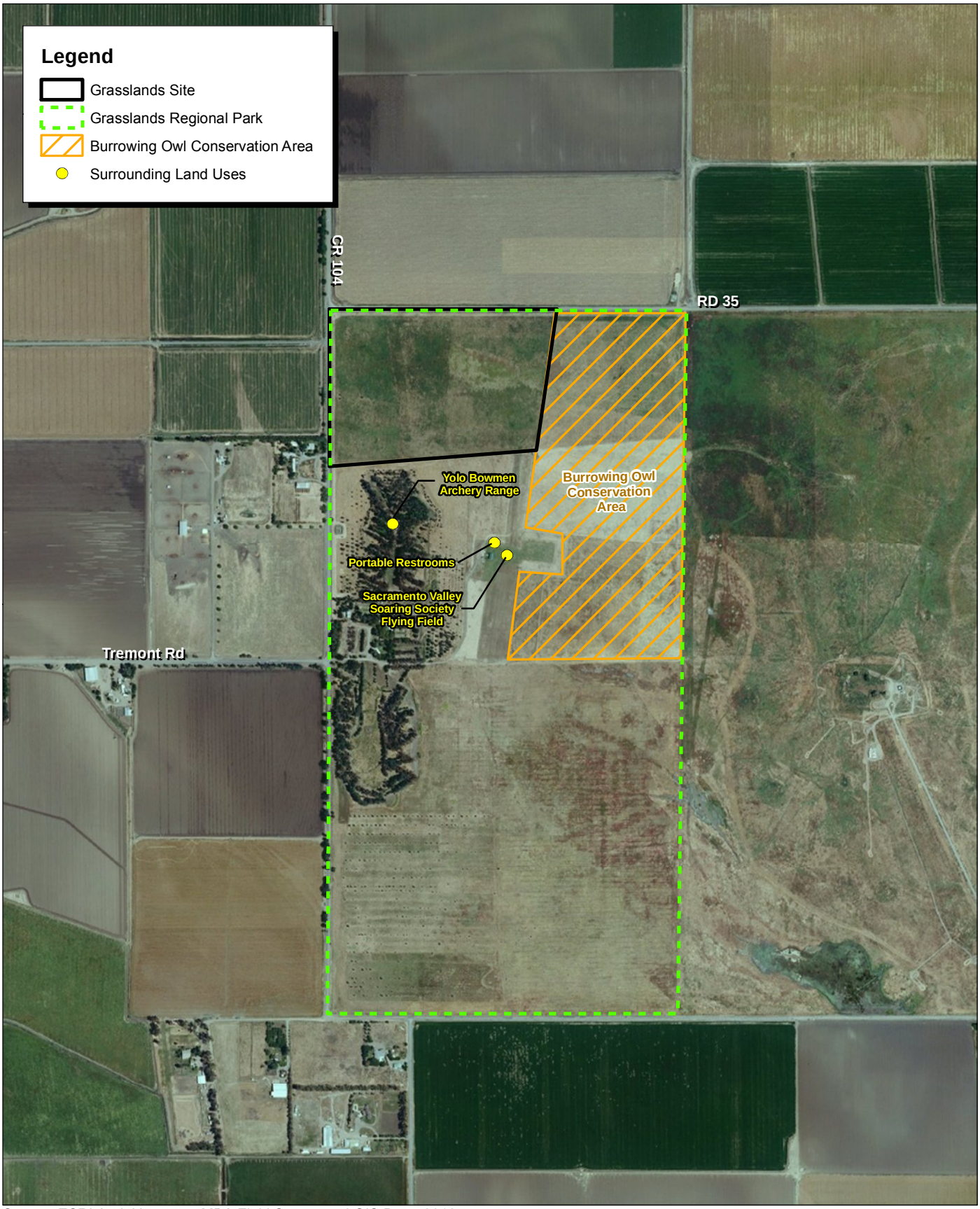

Source: ESRI Aerial Imagery. MBA Field Survey and GIS Data, 2012.

NORTH

1,000 500 0 1,000 Feet

Michael Brandman Associates

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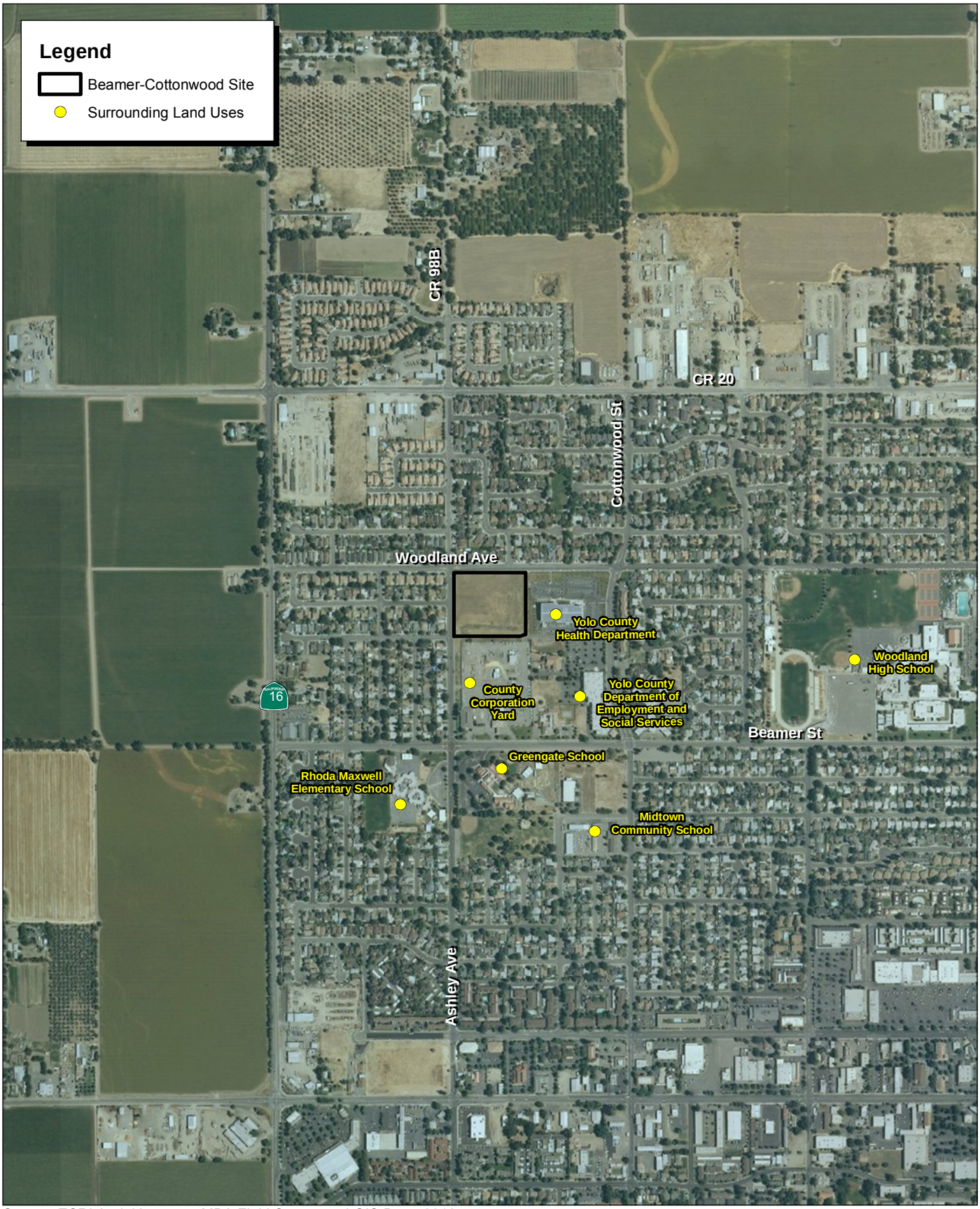
Exhibit 2-4
Local Land Uses Map
Grasslands Site



Source: ESRI Aerial Imagery. MBA Field Survey and GIS Data, 2012.

NORTH

1,000 500 0 1,000 Feet

Michael Brandman Associates

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Exhibit 2-5
Local Land Uses Map
Beamer-Cottonwood Site

Source: ESRI Aerial, MBA Field Survey and GIS Data, 2012.

Michael Brandman Associates

NORTH

330 165 0 330

Feet

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Exhibit 2-6
Conceptual Site Plan - Grasslands Site

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Environmental Education Center

The EEC would be constructed on a portion of the 20 acres adjacent to the 21-acre 5-MW solar facility and would consist of a 2,000-square-foot portable classroom building and picnic facilities. The EEC would host field trips from Yolo County elementary (K-12) schools and would be operated by the Yolo County Office of Education. It would be operated during normal Grasslands Regional Park hours of dawn to dusk. The center would provide educational information regarding the solar facility, energy conservation, sustainability, and habitat protection. The EEC would also operate in conjunction with a system of environmental educational placards educating the public about alternative energy and regional protected habitats and species. The EEC would consist of an environmentally sensitive modular building. The EEC would be designed and operated in consultation with the Collaborative for High Performance Schools (CHPS) Best Practices Manual. The CHPS Best Practices Manual contains multiple volumes on a variety of subjects to help schools, districts, and practitioners to achieve high-performance design, construction, and operation. The CHPS Best Practices Manual, Design for High Performance Schools, contains design guidelines tailored for California climates and are written for the architects and engineers who are responsible for designing schools as well as the project managers who work with the design teams. In addition, the Best Practices Manual contains the document, High Performance Relocatable Classroom.

Sustainability features of the EEC would include water and energy-saving features inside and outside of the EEC building, as well as general green and environmentally friendly features and operations and maintenance and operational procedures, as shown in Table 2-1.

Table 2-1: Overview of EEC Sustainability Features

Category	Sustainability Feature
Energy Efficiency	All appliances will be Energy Star certified
	Structurally insulated panels
	Daylighting by strategic window placement and potential use of solar tubes.
	Cool roofing material, using a high-albedo, low-emissivity material
	Compact fluorescent lighting and/or LED fixtures will be used inside the facility.
	Energy efficient windows (Low E Glazing, Superior "U" Value)
Water Efficiency	EPA WaterSense labeled water faucets
	Rainwater capture and storage facilities for rainwater reuse in nonpotable onsite applications
	Greywater system to reuse sink water for landscape irrigation
	Native and/or drought tolerant landscaping plants

Table 2-1 (cont.): Overview of EEC Sustainability Features

Category	Sustainability Feature
General Sustainability	Use of recycled materials in landscaping to the extent that local recycled materials (such as pavers) are available.
	No VOC Paints and Low-VOC epoxies and finishes will be used
	Bamboo flooring
	Stainable/Low Maintenance siding and roofing (Cement Board & Metal siding, Investment Grade Metal roof
Source: MBA 2012	

Curriculum for the EEC is expected to be based on input from SunPower, UC Davis, Woodland Community College, Yolo County school districts, and the Yolo County Regional Occupation Program Business Advisory Committee. Curriculum would include environmental science, renewable energy technology, energy auditing, and demonstration projects. In addition, information related to Grassland Regional Park's habitat setting, restoration practices, and burrowing owl conservation area would be provided.

The site would receive seasonal trips from Yolo County schools. Based on the number of K-12 students in Yolo County, an average bus capacity of 52 students, and assuming that educational trips to the Grasslands site would only occur half of the school year, the Grasslands site could host up to 28 peak-day trips, assuming PV site inspectors and panel washers would also visit the project site at the same time (see Solar Facility description below). However, the average daily trip generation would be less than 10 trips per day, conservatively.

Trails and Wildlife Viewing Area

Walking trails and park benches would be provided throughout the Environmental Education and Sustainability Park, connecting to the park components to each other as well as to the other land uses within Grasslands Regional Park. Trails would allow visitors to enter or exit the site on-foot and access the existing Grasslands Regional Park facilities to the south. An informational kiosk and trash receptacles would be provided at the trailhead connecting to existing areas of Grasslands Regional Park.

A wildlife viewing area would be constructed along the eastern boundary of the project site adjacent to the burrowing owl conservation area. Ranch-style fencing would provide a clear delineation on all sides of the wildlife viewing area. An informational kiosk and shade structure would be constructed to allow visitors a comfortable view of the adjacent burrowing owl conservation area and potential conservation areas, as discussed below. Picnic facilities and associated trash receptacles would also be provided within the wildlife viewing area.

Potential Conservation Area

As shown on Exhibit 2-6, an approximately 12-acre area within the Environmental Education and Sustainability Park to the east and south of the solar facility are identified for future use as conservation areas. Currently, there are no conservation easements, dedications, or proposals within these areas.

Solar Facility

The Grassland's site solar facility would consist of a 5-MW PV solar array, consisting of 13,696 panels on approximately 21 acres. The solar facility would serve as a laboratory for operations, maintenance, and data in conjuncture with the operation of the Environmental Education and Sustainability Park. The solar facility would also be used as a research laboratory for the feasibility of agricultural crop production and weed control beneath the solar panels. Electricity produced at the Grasslands site will be fed into the grid at two Pacific Gas and Electricity (PG&E) interconnection points and would serve the adjacent EEC and park host site electrical needs.

Modular Power Block and Cabling

The solar panel array would contain individual modular power blocks. Individual solar PV panels and rows would be electrically connected together in a series to carry direct current (DC) electricity. Multiple DC strings would be wired into an aboveground combiner box, merging the strings into a single high-current cable. From the combiner boxes, the cabling would be installed both above ground in cable trays and underground approximately 3 feet deep to inverters mounted on small concrete pads distributed across the project site. The inverters would change the DC output from the combiner boxes to alternating current (AC) electricity. The AC electricity for the modular power block would be increased to medium voltage with a standard "step-up" transformer. The medium-voltage cabling would create multiple collection circuits that would carry the electricity from the modular power blocks to the project substation. The medium-voltage collection circuits would be installed either underground or on overhead poles to the project substation.

Tracker Unit

Each modular power block would be comprised of individual tracker units. The tracker units would contain the rows of solar PV panels oriented in a north-south direction. The tracker units would rotate the rows of solar PV panels from east to west throughout the day, following the sun to maximize exposure to sunlight and thereby maximizing electrical output. The rows of each tracker units would be linked together and rotated in unison by an industrial-grade system controller and drive unit. The tracker units would include seven major components, described below:

Drive Unit

Within an individual tracker unit, multiple rows of solar PV panels would be linked by a steel drive strut, which would be oriented perpendicular to the axis of rotation. Each row would be connected to the drive strut by a torque arm, which acts as a lever, enabling the drive strut to rotate the rows together as the drive unit moves the drive strut forward and backward. The drive unit would be

mounted at the first row of a tracker unit, and consist of a 0.5-horsepower, bi-directional AC motor that rotates the drive strut via an industrial-grade screw jack. The drive unit would be connected to an industrial-grade variable-frequency drive (VFD) that translates commands from the control computer into AC voltage, applying power to the motor, the screw jack, and finally to the drive strut and the rows.

Tracker Controller

The tracker controller is a self-contained, industrial-grade control computer that would incorporate all of the software needed to operate the system. The tracker controller would include a liquid crystal display (LCD) monitor that displays a combination of calibration parameters and status values, providing field personnel with a user-friendly configuration and diagnostic interface. The LCD would enable field adjustment, calibration, and testing.

PV Panels

The solar system would incorporate high-efficiency, commercially available Underwriters Laboratory (UL)-listed solar PV panels made from crystalline silicon, anti-reflective glass, aluminum frame, and copper electrical wires with plastic sheathing. By design, the solar PV panels would absorb sunlight to maximize electrical output and use anti-reflective glass, resulting in approximately half the reflectance of standard residential and commercial glass. Because of the limited rotation angles, the solar PV panels have no potential for reflecting the sun upon any ground-based, offsite observer. These panels would be protected from impact by tempered glass, and would have factory applied ultraviolet (UV) and weather-resistant "quick connect" wire connectors.

Steel Tracking Structure

The steel tracking structure would be able to withstand high-wind conditions (up to 90 miles per hour [mph]), site-specific wind gusts and aerodynamic pressure effects, and seismic events. The metal structural elements are constructed of corrosion-resistant galvanized steel. The frame would be elevated to approximately 3 to 7 feet above the ground and would consist of long horizontal beams atop vertical piers. The piers would consist of 5-inch-diameter steel pipes that are either driven into the ground or drilled and cast-in-place, dependent upon subsurface conditions. The piers would extent approximately 8 to 12 feet below ground surface. Drive motor piers would be cast in predrilled holes of 24 to 36 inches in diameter and 10 to 16 feet deep.

DC-AC Inverter

The DC-AC inverter would change the electrical current from DC, which is produced in the solar cells, to AC, which is delivered to the transmission system. The DC-AC inverter would meet all applicable UL, Institute of Electrical and Electronics Engineers, and National Electrical Code standards.

Combiner Boxes

Combiner boxes would merge the DC module wiring into a single high-current cable.

Data Acquisition System (DAS)

Integrated with the inverter, the DAS comprises multiple components, including a data logger and sensors that record AC power output. Other integrated components include equipment to record weather conditions, including ambient temperature measured in degrees Celsius (°C); incoming solar radiation measured in watts per square meter (W/m^2); and wind speed measured in meters per second (m/s). The DAS enables system data transfer and performance monitoring via the SunPower Monitor Website.

Interconnection Facilities

Onsite interconnection facilities would consist of eight 500-kilowatt inverters with four common dual secondary 12 kV step-up transformers connected to a set of metal enclosed switchgear. The switchgear would contain the accessible disconnect switch and revenue meter required by PG&E.

Electricity generated at the Grasslands site would be connected to two offsite interconnection points. The PG&E feeder #62041112 near the intersection of County Road 104 and County Road 35 would accept 2.5MW AC, and the PG&E feeder #62041107 on Tremont Road would accept the remaining 2.5MW AC. Both tie-in points are fed from the Davis Substation. The County Road 104 tie-in would be 110 feet in length and utilize existing overhead power lines. The Tremont Road tie-in would be 3,705 feet in length and would utilize existing overhead power lines. It is assumed that no more than three power poles would be required onsite to support the interconnection. Power poles would be similar in structure and height to those that currently exist in the area.

Maintenance

The solar array requires minimal maintenance. Generally, the only maintenance required is annual topping of worn gear lubricant and module washing.

Other Site Improvements

Internal Access Roads

As previously discussed, two access points to the site would be provided from County Road 35 along the northern boundary of the project site. Internal access roads between the solar array rows would be provided for ingress and egress, as well as to facilitate installation, maintenance, and cleaning of the solar PV panels. As previously discussed, the internal access roads provide a looped circulation center for access to the EEC as well as sufficient space for parallel parking and bus turn-around. All internal access roads would consist of compacted gravel that would be seeded.

Fencing and Site Security

As necessary for public safety and project site security, the County would install ranch-style fencing, as described below, around the perimeter of the solar facility. Fencing will be designed to meet specific performance criteria, such as National Electrical Safety Code (NESC) specifications for electricity generating facilities, including a minimum height of 7 feet tall.

The proposed design of the fencing would include pressure treated lumber posts with welded wire grid ranch fencing. The fencing would be 8-feet tall, thereby exceeding NESC height requirements. The woven wire fencing would have wider spacing at the bottom of the fencing to allow the unrestricted movement of small mammals and reptiles through the fence while preventing larger predators such as coyotes from passing through. The bottom 21 inches of fencing would have vertical wires would be spaced 6 inches apart, and horizontal wires spaced 7 inches apart.

Remotely accessed and controlled infrared security cameras would be installed to monitor the solar facility.

Lighting

Pole-mounted exterior security lighting would be installed at both project site entrances. Wall-mounted exterior security lighting would be installed at the environmental educational center. The park host site may also include minor exterior lighting. Lights would be downward facing and sensor controlled to reduce offsite illumination, and would remain on from dusk to dawn. Exterior lighting at the EEC building would not be required to remain on during night hours and would only be used as necessary.

Landscaping

Landscaping would be provided along the solar facility's frontages with County Road 104 and County Road 35. Plants would consist of drought-tolerant (low-water-use) evergreen hedgerows spaced 3 to 5 feet apart. Once mature, the landscaping would provide visual screen for the solar array. Limited amounts of water will be used until the plants establish a healthy root structure and are self-sufficient. Water would be provided via either a contracted water supplier or a temporary irrigation system connected to the existing well within the developed portion of Grasslands Regional Park.

Restroom Facilities

The project does not include the construction of any new restroom facilities. Site visitors would utilize the existing portable restroom facilities located north of the Soaring Society Flying Field within Grasslands Regional Park. The existing portable restroom facilities would be accessible by trail or by vehicle through the Grasslands Regional Park's main entrance.

Water Delivery

Water needed for the biannual washing of the PV panels would be provided to the project site by a vendor who would deliver water by truck. As previously mentioned, water used for the establishment of landscaping would be provided via either a contracted water supplier and trucked onsite or a temporary irrigation system connected to the existing well within the developed portion of Grasslands Regional Park. Potable (drinkable) water would be provided to the park host site via a permanent connection to the existing well. This water connection would also be utilized for the EEC should a

drinking fountain be installed. The existing onsite well is currently utilized by the existing park host and has been used in the past for irrigation.

2.3.2 - Beamer/Cottonwood Site Improvements

The Beamer/Cottonwood solar facility would be located on a 2-acre portion of the Beamer/ Cottonwood site, adjacent to existing County facilities in the City of Woodland (Exhibit 2-7). The 0.8-MW AC system would offset County facility electricity uses at the Beamer Cottonwood Campus by providing electricity directly to three campus buildings. Such energy use would offset existing non-renewable energy use, thereby contributing to the reduction in greenhouse gas emissions and assisting in compliance with Yolo County's Climate Action Plan.

The Beamer/Cottonwood solar facility would consist of an 0.8-MW AC solar array, consisting of 2,368 panels, and would be constructed using the same components (modular power block and cabling, tracker unit, drive unit, tracker controller, PV panels, steel tracking structure, DC-AC inverter, combiner boxes, and DAS) as the Grasslands site. Maintenance requirements would also be similar. However, the Beamer/Cottonwood site would be smaller in scale and would not feed power into the PG&E grid. Instead, electricity produced at the Beamer/Cottonwood site would be used at the adjacent Yolo County Health Department building, the Yolo County Department of Employment and Social Services building, and the Joint Powers Authority (JPA) building.

Interconnection Facilities

As previously noted, electricity generated at the Beamer/Cottonwood site would be provided to three offsite County buildings. Electricity would be delivered via underground trenching to three end locations. Trenches would be 2 to 3 feet wide and 32 inches deep. A total of 1,735 linear feet of trenching would be required. Trench routes are shown on Exhibit 2-7. At each County building, an electrical tie-in would connect the building's electrical system to the solar array.

Other Site Improvements

Internal Access Driveways

A single access point to the site would be provided from an existing internal drive isle off N. Cottonwood Street (refer to Exhibit 2-7). Internal access driveways would be provided for ingress and egress, as well as for movement between the solar array rows to facilitate installation, maintenance, and cleaning of the solar PV panels. All internal access driveways would consist of compacted gravel.

Fencing and Site Security

As necessary for public safety and project site security, the County would install fencing around the perimeter of the project site. Fencing will be designed to meet specific performance criteria, including National Electrical Safety Code (NESC) specifications that require a minimum height of 7 feet tall. Fencing at the Beamer/Cottonwood site would consist of diamond mesh fencing and may include vinyl privacy slats.

Remotely accessed and controlled infrared security cameras would be installed to monitor the project site.

Lighting

Pole-mounted exterior security lighting would be installed at the project site entrance. Lights would be downward facing and sensor controlled to reduce offsite illumination, and would remain on from dusk to dawn.

Landscaping

Landscaping would be provided along the project's frontages with W. Woodland Avenue and N. Ashley Drive. Plants would consist of drought-tolerant (low-water-use) evergreen hedgerows spaced 3 to 5 feet apart. Once mature, the landscaping would provide visual screen for the solar array. Limited amounts of water will be used until the plants establish a healthy root structure and are self-sufficient. Water would be provided via either a contracted water supplier or a temporary irrigation system connected to the County's adjacent existing irrigation system.

Water Delivery

Water needed for the biannual washing of the PV panels would be provided to the project site by a vendor who would deliver water by truck. As previously mentioned, water used for the establishment of landscaping would be provided either via a contracted water supplier and trucked onsite or a temporary irrigation system connected to the County's adjacent existing irrigation system.

2.3.3 - Project Construction

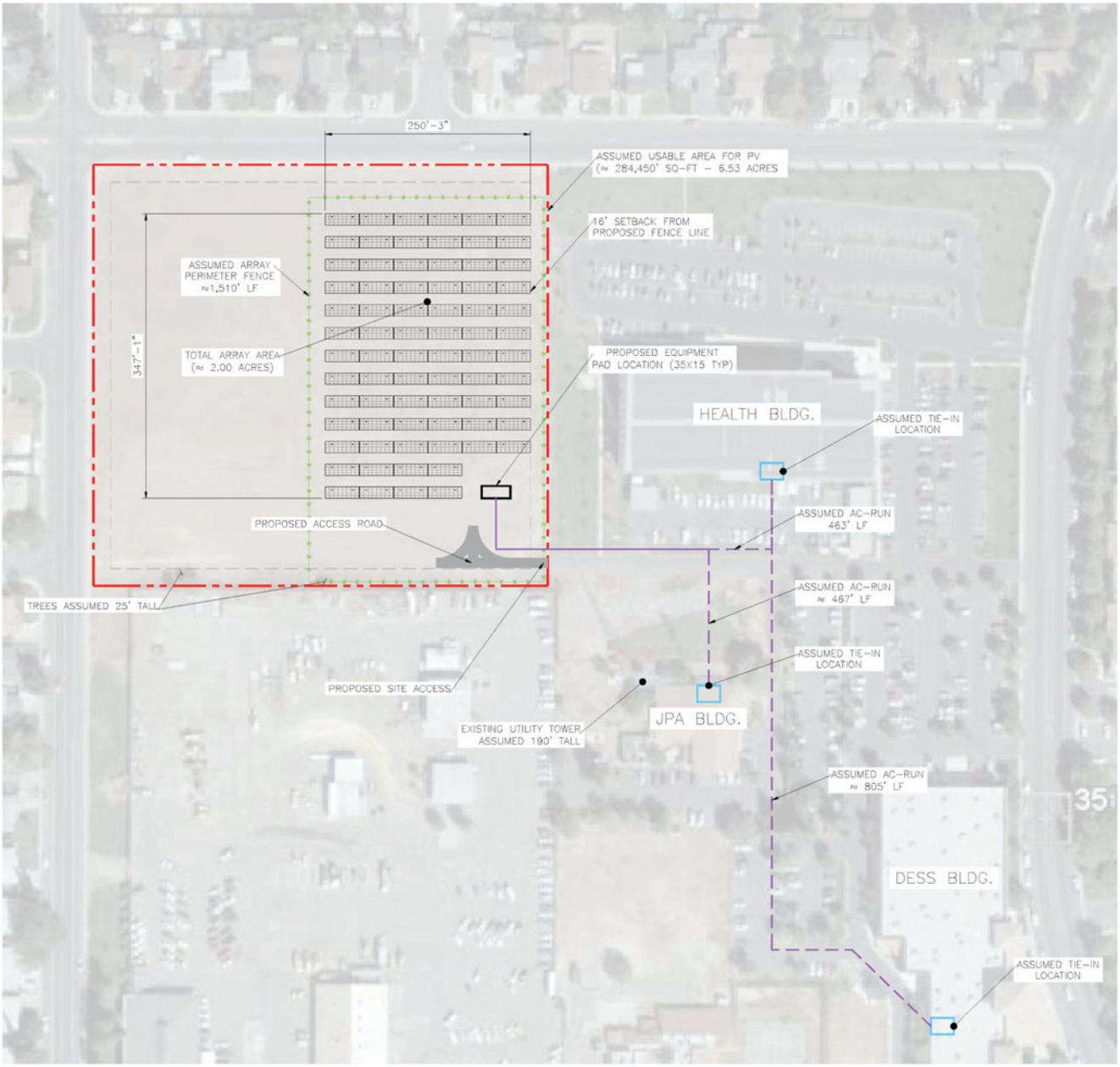
Both the Grasslands and Beamer/Cottonwood sites would be constructed simultaneously. Construction of the proposed project would occur over 4 consecutive months, expected to begin in March 2013, with an expected completion by end of July 2013.

Construction Schedule and Workforce

Construction phases are expected to overlap, with the total number of construction workers expected to range between 5 and 15. Construction worker traffic would vary according to the needed workforce.

Construction Equipment

During project construction, a variety of equipment and vehicles would be operating on the project site. Table 2-2 provides a list of the type and number of equipment and vehicles expected to be required during the construction phases for each project site.



Source: Sunpower, October 2011.

NORTH

Not to scale

Michael Brandman Associates

Exhibit 2-7
Site Plan
Beamer-Cottonwood Site

Table 2-2: Anticipated Construction Equipment

Activity	Equipment
Fine grading – Road Construction	Other Construction Equipment
	Rough Terrain Forklifts
	Off-Highway Trucks (water)
Trenching	Rubber Tired Loaders
	Tractors/Loaders/Backhoes
	Trenchers
PV Installation	Cranes
	Forklifts
	Bore/Drill Rigs
	Tractors/Loaders/Backhoes
Source: SunPower 2012	

Construction Hours

Construction activities are expected to occur between the hours of 6:00 a.m. and 8:00 p.m., Monday through Friday. Nighttime and weekend construction work may also be necessary. All construction work, including any nighttime or weekend work, would comply with all Yolo County noise policies as required by the Noise Element of the 2030 Countywide General Plan and City of Woodland noise ordinances.

Construction Traffic

Traffic generated by project construction would primarily include the delivery of construction equipment, vehicles, and materials, as well as daily construction worker trips. A majority of the equipment (e.g., solar PV panels, inverters, and tracker steel) would be delivered to the project site in standard widths and lengths by vans or covered flatbed trailers. The County would facilitate materials delivery during off-peak traffic hours, and would comply with applicable permitting requirements if these loads were oversized.

A majority of the solar array materials would be transported by truck from the Oakland, California area. Major highways to be used would include I-80 and State Route 13. The majority of the construction materials (e.g., aggregate, concrete) would be procured locally, within an approximate 10- to 20-mile radius of each project site. During the 4-month construction period, approximately 200 deliveries are expected to be required to deliver panels and construction materials to both project sites combined, representing an average of approximately 1 to 2 deliveries per workday at each site based (on a 5-day work schedule). During peak construction activities, up to 10 truck deliveries per day could occur at either site.

The majority of the labor force would be from the Sacramento Valley. Construction worker traffic would vary according to the needed workforce. Construction workers would park within designated areas on each project site, and parking along the shoulders of adjacent roadways would be prohibited.

Site Preparation

Staging and Other Temporary Work Areas

A central staging area would be delineated at each project site. This staging area would include a temporary office trailer, parking for construction workers, and a materials delivery area where some materials would be stored either in the open or in containers. Most materials would be delivered to the project sites at or around the time they are needed, and immediately sent out to the location where they would be installed. Some materials could be staged near the location where they would be installed for a short period, but since the production would move fairly quickly, these temporary staging areas would frequently move around the project site during the construction phases.

Internal Driveways

Internal gravel driveways at each site would be provided for ingress and egress, as well as for movement between the solar array rows to facilitate installation, maintenance, and cleaning of the solar PV panels. These roads would be designed to meet the applicable fire protection requirements and the County of Yolo Improvement Standards.

Construction-Related Grading and Vegetation Management

Site preparation at each site would consist of clearing vegetation. Cleared vegetation would be chipped and disposed of in accordance with local waste management requirements, or sold to a local cogeneration facility.

Both project sites are essentially flat. Consequently, minimal grading would be required to level the areas where buildings and solar arrays would be located. Some light grubbing and minimal grading is expected to be required for targeted leveling and trenching, and fine grading would be required for the development of internal gravel driveways. No fill material would be either imported or exported.

Minor grading would include the use of various equipment including graders, bulldozers, compactors, and water trucks to control dust.

Erosion and Sediment Control and Pollution Prevention During Construction

A Stormwater Pollution Prevention Plan (SWPPP) would be developed for project construction. The SWPPP would include a combination of measures to protect areas that are determined to be vulnerable to erosion. Additionally, measures would be proposed in the SWPPP to control dust and the tracking of mud onto the roads by construction equipment and vehicles.

Construction Materials

During project construction, the transport of general construction materials (concrete, aggregate, metal, fuel, etc.), as well as the materials necessary to construct the solar arrays, would be required.

Construction waste generated at each project site would be sorted to separate recyclable and non-recyclable materials. The sorted waste would be stored in dumpsters that would be serviced by a licensed solid waste hauler. Non-hazardous construction debris would be disposed of in local landfills, located within approximately 20 miles of each project site, in accordance with all applicable regulations.

Solar Array Construction

Support piers up to 18 feet long would be installed either via vibratory pile driving, which would involve inserting a steel pile into the ground using a hydraulic vibratory pile driver or drilled and cast-in-place, dependent upon subsurface conditions. The piers would be approximately 5 inches in diameter by 18 feet in length and extend approximately 8 to 12 feet below ground surface. The piers would be installed with approximately 5 feet remaining above grade, which would serve as the foundation for the tracker arrays. No blasting or rock breaking would occur during project construction. Small truck-mounted cranes or grade-all forklifts would move materials throughout the project sites and support tracker array construction. Tracker array construction would include small all-terrain vehicles (ATVs) to transport materials and workers on internal gravel driveways and array aisles. Solar PV panels would be manufactured offsite and shipped to the project sites ready for installation. Concrete pads for the drive motors would be poured using concrete from an offsite local batch plant located within approximately 20 miles of each project site, and electrical equipment for the array would be set in place.

Testing and Energizing

Prior to energizing substation equipment, the solar panels would be tested. In addition to the solar testing, the protective relaying, and communications systems would be tested. Upon successful testing, the equipment and project would be energized and connected to the grid or, in the case of the Beamer Cottonwood site, to the adjacent buildings. Interconnecting the gentie line to the grid may require a brief shutdown of the local lines.

2.3.4 - Project Operation and Maintenance

Operation and Maintenance Workforce

Both solar arrays would operate 24 hours per day, 365 days a year. Operation of the proposed project would result in the hiring of SunPower Operations and Maintenance Service team. However, the majority of operations and maintenance work can be completed remotely, and, as such, vehicular traffic will not increase as a result of the operation of either PV facility. Panel-washing crews would conduct panel washing two times per year (as described below). The park host would temporarily locate a personal travel trailer onsite and would be present anywhere from 6 to 12 months during the year.

Panel Washing

Panel washing would occur two times per year to clean the active surface of solar PV panels to optimize transmission of solar light and energy production. Panel washing would require approximately 0.5 gallon per panel per wash, with an anticipated 2 washes per year. Therefore, approximately 1 gallon of washwater per panel per year would be used.

Site Maintenance

The County would provide site maintenance throughout the life of the proposed project. Non-hazardous solid waste would be collected for disposal by a licensed waste hauler and disposed of at municipal county landfills.

Sheep-Grazing

The Grasslands site may use professionally managed herds of sheep or similar livestock for periodic control of native grasses. In some locations, or if grazing is not sufficient, mowing would occur. Sheep are small enough to graze beneath the solar array with a minimal amount of risk of damage to project infrastructure and have been successfully used in solar farms for years. Sheep effectively utilize rapid-growing annual grasses. All classes of sheep (ewes, lambs, and rams) can be used. The grazing of sheep would reduce vegetation heights on the project site in order to reduce the potential risk of grass fire. Sheep are the preferred species for grazing because they are capable of closely cropping grasses and other forage plants

Grazing would commence in the late winter and early spring, when annual grasses are growing rapidly and are highly palatable to sheep. During years with above-average productivity, the grazing season would be extended until the target residual dry matter levels are met. During years with below-average productivity, the grazing season may be shortened or the herd size may be reduced.

Water Requirements and Wastewater Generation

During project construction, the primary use of water would be for dust control. Water may also be required to moisture condition the soils for proper compaction at roads and foundations. The estimated construction-related water demand is 9 acre-feet, although actual demand may vary by several acre-feet, depending on the season during which construction work occurs. Water used during construction would be provided via a contracted water service.

During operation of the proposed project, the PV panels would be washed two times per year. Approximately 6,848 gallons of water (0.50 gallon per panel x 13,696 panels = 6,848 gallons) per washing cycle would be needed at the Grasslands site. Approximately 1,184 gallons of water (0.50 gallon per panel x 2,638 panels = 1,184 gallons) per washing cycle would be needed at the Beamer/Cottonwood site. Since the water used would either soak into the soil or evaporate, no wastewater would be generated during panel washing. Water used for PV panel washing would be provided via a contracted water service.

Water used for landscaping would be minimal because of the use of drought-tolerant (low-water-use) species and would be limited to water needed to establish a healthy root structure and self-sufficient plant.

Restroom facilities at the Grasslands site would be provided at the existing portable facilities located within the main Grasslands Regional Park north of the Soaring Society Flying Field. No new or expanded restroom facilities are proposed as part of this project. The County may determine, at a future date, that additional or permanent facilities are warranted. The location and components of permanent facilities would be determined at that time.

The park host site would include a small septic system to serve the park host's personal travel trailer. The septic system would be designed and constructed consistent with applicable regulations.

Hazardous Materials and Hazardous Waste

Project construction would involve the use of some hazardous materials, such as fuels and lubricants used for construction vehicles and equipment. Such materials may be stored in temporary aboveground storage tanks or sheds located on the project site. The fuels stored on the project site would be contained within a locked container within a fenced and secure temporary staging area. Trucks and construction vehicles would be serviced at offsite facilities. The use, storage, transport, and disposal of hazardous materials used in construction of the solar facility would be carried out in accordance with all federal, state, and county regulations. No extremely hazardous substances (those governed pursuant to Title 40, Part 335 of the Code of Federal Regulations) are anticipated to be produced, used, stored, transported, or disposed of as a result of project construction. Material Safety Data Sheets (MSDS) for all applicable materials present on the project site would be readily available to onsite personnel, as required by Yolo County Environmental Health Services.

Operation and maintenance of the proposed project is not expected to require hazardous materials or to generate hazardous waste. The transformers that would be located at each project site substation would use biodegradable oil-based esters or similar substances, which according to the U.S. Occupational Safety and Health Administration are not considered a hazardous material. Disposal of this oil would occur in accordance with all applicable regulations. The solar PV panels and inverters would produce no waste during project operation.

Non-Hazardous Solid Waste

All waste materials that cannot be reused or recycled would be sorted to guarantee proper final disposal. Examples of disposable wastes include wood from cribbing and packing materials and miscellaneous refuse generated during project construction. All construction debris would be placed in appropriate onsite containers and periodically disposed of by a licensed hauler in accordance with all applicable regulations. Non-hazardous construction materials that cannot be reused or recycled would likely be disposed of at municipal landfills.

2.4 - Project Objectives

The objectives of the proposed project are to:

- Construct a solar energy facility that would assist the State in meeting its Renewable Portfolio Standard and goals aimed at reducing greenhouse gas (GHG) emissions.
- Further the State's efforts to achieve its goals for renewable energy generating capacity within its total energy portfolio.
- Assist in meeting the utility peak power load by adding solar power capacity, which has peak generation on sunny, hot summer days.
- Assist in achieving the State's 33-percent Renewable Energy Portfolio Standard and greenhouse gas emissions reduction objectives to the maximum extent possible based on the existing capacity of existing transmission line facilities.
- Locate solar power plant facilities as near as possible to electrical transmission facilities with anticipated capacity and reserved queue position.
- To the extent feasible, site the projects on disturbed or previously degraded land to avoid or minimize impacts to special-status species or habitat.
- Provide a permanent buffer area adjacent to the burrowing owl preserve located within the Grasslands Regional Park.
- Use a proven and available solar photovoltaic technology that qualifies as an Eligible Renewable Energy Resource pursuant to Public Utilities Code Section 399.12, Public Resources Code Section 25741, and the California Energy Commission's "Renewable Portfolio Standard: Eligibility Guidebook" (CEC, 2008).
- Construct solar facilities totaling 5.8MWs in size to meet the financial goals of a zero capital investment, annual revenue of approximately $250,000, and lifetime revenue of nearly $42 million over 35 years (Vernon, pers. comm.).
- Accommodate a mix of agricultural and non-agricultural uses by making the land underneath and between the solar panel array available for sheep grazing by undertaking a commercial sheep-grazing operation or other compatible agricultural crop production.
- Produce economic benefit by creating temporary construction jobs and reducing energy costs.
- Develop a unique education center for K-12 students to learn about environmental conservation and sustainability.
- Utilize a currently underutilized portion of the Grasslands Regional Park.
- Generate electricity to be used by Yolo County offices to reduce long-term electrical utility costs.

2.5 - Intended Uses of this Draft EIR

This Draft EIR is being prepared by the County of Yolo to assess the potential environmental impacts that may arise in connection with actions related to implementation of the proposed project. Pursuant to CEQA Guidelines Section 15367, the County of Yolo is the lead agency for the proposed project and has discretionary authority over the proposed project and project approvals. The Draft EIR is intended to address all public infrastructure improvements and all future development that are within the parameters of the proposed project.

2.5.1 - Discretionary and Ministerial Actions

Discretionary and ministerial actions are required by the County of Yolo for implementation of the proposed project. The project application would require the following discretionary or ministerial approvals and actions, including:

- **Building Permit.** A building permit will be required prior to the start of construction.
- **Minor Use Permit.** More than 2.5 acres of Swainson's hawk foraging habitat will be impacted, thereby necessitating a Minor Use Permit in accordance with the County's Solar Ordinance.
- **NPDES Permit, Central Valley Regional Water Quality Control Board.** Construction of the project would disturb a surface area greater than 1 acre. Therefore, the County would be required to obtain a National Pollutant Discharge Elimination System Permit (NPDES) from the Central Valley Regional Water Quality Control Board. As part of this permit, an SWPPP would be developed and implemented.
- **Encroachment Permit.** Yolo County requires an Encroachment Permit for utility trenching and overhead lines to cross county roadways. As part of the application process for the Encroachment Permit, construction drawings and a traffic control plan for any work that would take place in public streets must be submitted.

2.5.2 - Required National Parks Service Approval

As previously stated, the Grasslands site is located within the Grasslands Regional Park and is currently held by the National Park Service (NPS). The site is subject to the Federal Property and Administrative Services Act, the Federal Lands for Parks (FLP) Act (which amends the former), the existing deed restrictions, and the FLP program policy. The sale of the Grasslands site to the County is required before development of the project site may occur. However, sale of the Grassland site to the County does not ensure that development of the project site will occur.

Discretion for approval or non-approval of a negotiated sale of a portion of the park is determined by both the NPS and the federal General Services Administration (GSA); the NPS must be willing to release a portion of the park and GSA negotiates the sale of it. The NPS's decision is limited to

approval or denial of the proposal to allow a negotiated sale of the portion of the park, and does not extend to changes in land use or development of the project site. The County is proposing the change in land use, and it has a primary land-use decision-making responsibility.

Therefore, a separate National Environmental Policy Act (NEPA) document must be prepared to assess the environmental effects of the NPS decision; an Environmental Assessment (EA) will be prepared to assess the environmental effects the potential sale or release of the property. However, as indicated by the NPS, the EA is not required to evaluate the potential environmental effects of the proposed development of the site except what is needed to determine if the release might subject the remaining parkland to impacts. It is not within the NPS's jurisdiction to render decision or approve the solar array or educational facility that is to go on the land released from the FLP deed conditions, or any of the potential impacts related to such development. Therefore, this CEQA document appropriately contains the description, analysis, and disclosure of potential environmental effects of the County's land use decisions and development of the project and as described herein.