

B. Description of Revised Project

B.1 Introduction

This Supplemental Environmental Impact Report (SEIR) assesses the environmental impacts that may result from changes to the Panoche Valley Solar, LLC’s (PVS or Applicant) development of the Panoche Valley Solar Project, photovoltaic (PV) solar power plant. In 2010, the County of San Benito (County) certified the Final Environmental Impact Report (2010 Final EIR) for the Panoche Valley Solar Project and approved a Conditional Use Permit (CUP) to construct and operate a 399-megawatt (MW) project described as Alternative A Revised in the 2010 Final EIR (referred to as the “Approved Project” in this SEIR). The County also approved the whole or partial cancellation of nearly 7,000 acres of California Land Conservation Act of 1965 (Williamson Act) contracts. Both the CUP and the approval of cancellation of the Williamson Act contracts associated with the project site were approved by the County Board of Supervisors in October and November 2010.

The Applicant is proposing modifications to the Approved Project (as presented in the 2010 Final EIR), which are being evaluated in this Supplemental EIR as the Revised Project. The Approved Project and the Revised Project are located on the same general site in the Panoche Valley, an unincorporated area of eastern San Benito County. However, the Revised Project would be smaller (247 MW alternating current) and would impact 700 fewer acres (2,506 acres as opposed to 3,202 acres) and permanently disturb 315 fewer acres (1,888 as opposed to 2,203). The Approved Project would have been constructed in five phases over five years. The Revised Project would be constructed in one phase lasting approximately 18 months. Table B-1 shows a comparison of the originally proposed project analyzed in the 2010 Final EIR, the Approved Project (Alternative A Revised), and the Revised Project.

Table B-1. Panoche Valley Solar Project Changes Since 2010

Project Element	2010 Final EIR Proposed Project	2010 Approved Project	2014 Revised Project
Mw of electricity generation	420 MW	399 MW	247 MW
Number of PV panels	3–4 million	3–4 million	1 million
Power blocks	Not specified	53 1 MW and 173 2 MW	145 1.67 MW and 6 0.83 MW
Project site size (fenced area)	4,885 acres	3,202 acres	2,506 acres
Permanent disturbance footprint	2,437 acres	2,203 acres	1,888 acres
Construction schedule	5 years beginning in 2011	5 years beginning in 2011	Approx. 18 months beginning in 2015

The location of the Revised Project is illustrated in Figure B-1 (Project Location; all figures are presented at the end of Section B). The Revised Project footprint is shown in comparison to both the originally proposed project and Approved Project footprints in Figure B-2 (Revised Project Boundaries). The Revised Project generally includes the following changes:

- **Project Footprint.** The project footprint and overall disturbance area has been refined and reduced, which has resulted in a larger on-site conservation area for species conservation.
- **Increase in Peak Construction Personnel and Construction Traffic.** Based on an accelerated construction schedule (one 18-month construction phase as opposed to a 5-year construction schedule), the number of daily construction workers traveling to/from the project site and working at the site has increased by a maximum of 200 workers per day to 550 workers per day.

- **Water Usage.** Due to the accelerated construction schedule, the Applicant is proposing to increase the amount of water used during the temporary construction period. However, due to the reduced size of the project, the amount of water used to wash panels once the project is operational has been reduced.
- **Additional Water Storage During Construction.** The Applicant proposes to construct new temporary construction water ponds and three temporary water tanks near existing or new wells.
- **Revised Internal Circulation.** Permanent on-site access roads would be eliminated from the project and interstitial space (dirt paths between rows of PV panels) would be utilized as transportation corridors as needed for maintenance. No installation of gravel or compaction would be required with the exception of the project perimeter road and access to the substation and operations and maintenance area.
- **Fencing.** Based on coordination with and input from the United States Fish and Wildlife Service (USFWS) and CDFW and revised biological data, the implementation plan for installation of fencing at the project has been refined.
- **Applicant Proposed Measures/Mitigation Measures.** The Applicant has requested changes to a number of the applicant proposed measures (APMs) and mitigation measures that were adopted by the County in 2010 when the project was approved. An explanation of the requested changes and the effect of these changes on the prior analysis of project's environmental impacts are described in the appropriate discipline's analysis in Section C.
- **Other Changes within the Project Footprint.** The Revised Project includes a reduced number of inverters and transformers and minor modifications to the electrical substation and interconnection facilities.
- **Telecommunications Upgrades:** Based on interconnection studies performed by the California Independent System Operator (CAISO) and in consultation with Pacific Gas & Electric (PG&E), specific reliability upgrades have been identified for nearby substations, interconnection facilities and telecommunications infrastructure (which include installation of optical ground wire [OPGW] on PG&E's existing transmission line and a microwave system).

All of the other project components that are described in Chapter B of the Final 2010 EIR will remain the same. For example and as the SEIR notes below, the Revised Project does not propose modifications to erosion control, utilities, landscape design, the decommissioning plan and many other Approved Project components. Therefore, the environmental impacts of these unchanged components are not analyzed further in this SEIR because they were already addressed in the 2010 Final EIR. Nonetheless and for ease of reference for the reader, the SEIR includes a brief summary of these components. Information presented in this section was provided to the County by the Applicant with its CUP modification request, and in subsequent filings, all posted on the County's website (www.cosb.us).

The remainder of this section is organized as follows:

- **Section B.2** summarizes the project objectives
- **Section B.3** provides a revised site description
- **Section B.4** describes the solar project components that have changed
- **Section B.5** describes solar site design and engineering considerations that have changed
- **Section B.6** describes transmission interconnection and network upgrades that have changed
- **Section B.7** describes solar project construction components that have changed
- **Section B.8** describes solar project operations and maintenance that have changed
- **Section B.9** summarizes the proposed solar project decommissioning, which does not change with the Revised Project
- **Section B.10** presents proposed revisions to the Applicant Proposed Measures
- **Section B.11** describes the PG&E Upgrades that are evaluated in this SEIR
- **Section B.12** lists references cited

B.2 Project Objectives

The Applicant identified the following project objectives in the 2010 Final EIR. These objectives continue to apply to the Revised Project with the exception of references to the specific project schedule and the size of the project.

- Maximize renewable energy output through construction of a large-scale 247 MW solar energy facility to help meet mandatory State renewable energy goals.
- Locate the facility in a high solar resource area.
- Minimize environmental impacts by locating the facility on a site that has access to high-voltage electrical transmission lines.
- Minimize impacts on the community and the environment by locating the facility in a remote location, on land with compatible topography, and outside of parkland and designated habitat conservation areas.
- Achieve full operation in 2016.

The Revised Project is expected to be able to attain all of these project objectives.

B.3 Revised Site Description

B.3.1 Site Characteristics

This description of site characteristics has been changed for the Revised Project to reflect modifications in the scale of the project from the originally proposed project in the 2010 Final EIR and the subsequent approval of cancellation of Williamson Act contracts in the project area.

Revised Project Footprint. The Revised Project would be installed over an area of approximately 2,506 acres (3.9 square miles) with approximately 1,888 acres of permanent disturbance associated with solar

arrays, roads, substation (including the O&M building and transmission interconnection towers), and laydown areas. The remaining approximately 618 acres within the project footprint would be temporarily disturbed but otherwise undeveloped. Figure B-1 illustrates the location of the project.

Cancellation of Williamson Act Lands. Since approval of the 2010 Final EIR, the Williamson Act contracts on the project site, and some adjacent areas, were approved for cancellation; the total area of Williamson Act contracts approved for cancellation was 6,953 acres.

B.3.2 Increase in On-Site Conservation Lands

The proposed mitigation lands continue to include the Valadeao Ranch, the Silver Creek Ranch, and the on-site Valley Floor Conservation Lands, which are all described in the 2010 Final EIR. However, as shown on Figure B-1, the Valley Floor Conservation Lands were increased from 2,411 acres as described in the 2010 Final EIR to approximately 2,514 acres. This area includes an expanded 52-acre blunt-nosed leopard lizard buffer around blunt-nosed leopard lizard sightings, a widened San Joaquin kit fox corridor and higher density giant kangaroo rat areas.

B.4 Revised Solar Project Components

B.4.1 Reduced Number of PV Panels and Support Structures

The Approved Project included installation of 3 million to 4 million PV panels of 2 feet by 4 feet each; the Revised Project includes approximately 1 million PV panels that would each be 3 feet by 6 feet. The total number of PV panels would depend on the technology ultimately selected for the project. The ultimate decision for the technologies described below will depend on market conditions, economic considerations, and environmental factors, including the recycling potential of the panels at the end of their useful lives.

PV technologies that may be used include, but are not limited to:

- Thin-film technology: Various thin film technologies may be used on this site.
- Crystalline silicon technology: Various silicon technologies may be used; all would be reviewed for the panels' future recyclability.
- Fixed-tilt technology: the site may use the fixed-tilt technology of various vendors; all would be galvanized steel that is easily recyclable.

The Revised Project would use a single axis tracker system to support PV panels, which would contribute to reducing the number of required solar arrays. Each PV panel would be 3 feet by 6 feet (increased from 2 feet by 4 feet in the Approved Project). Larger panels may be used during the life of the project as technology evolves. All panels would be oriented to maximize solar resource efficiency. Panel faces would be non-reflective and black or blue in color.

The PV solar panels would be mounted on direct-driven steel support structures up to 15 feet in length, which is consistent with the 4 to 25 feet described in the 2010 Final EIR. The steel support structures would be corrosion-resistant galvanized steel. Steel poles may be placed in holes and backfilled with concrete if soil conditions warrant the use of such methodology as indicated by design-level geotechnical studies.

Rows of panels would be spaced 10 feet to 35 feet apart (decreased from 15 to 62 feet apart in the 2010 Final EIR) to prevent shading of adjacent rows. Rows of panels would be configured into power blocks

connecting to an inverter system. The inverter system would include direct buried insulated cable as compared to buried electrical collection conduit as described in the 2010 Final EIR Project Description.

The normal operating temperature of the PV panel face would not change from the Approved Project, which is 25-35 degrees Fahrenheit (°F) above maximum ambient temperature (panel face temperatures of approximately 130-140°F would be expected on typical summer days). As stated in the 2010 Final EIR, panels would result in shading of the area below.

The Applicant anticipates the Revised Project would produce approximately 247 MW of energy using 145 power blocks each generating 1.67 MW and 6 power blocks each generating 0.83 MW. Each power block would be approximately 520 feet by 90 feet, reduced from 615 by 640 feet as described in the 2010 Final EIR, and would contain the number of panels required to make up the 1.67 MW or 0.83 MW output from the inverter, which would depend on the wattage of the panels ultimately selected for the final design. The number of rows per power block would be consistent with the 8 to 34 estimated in the 2010 Final EIR.

Note that the actual energy output of the project will depend on the technology available during the life of the project and output may increase if improved technology allows for the installation of higher efficiency PV panels within the same project footprint and without any increase in resource impacts.

B.4.2 Electricity Collection Lines and DC-AC Inverters

Electrical energy in the form of direct current (DC) generated by the PV panels would be combined in combiner boxes and routed to the inverter. A combiner box is a small electrical enclosure, approximately four cubic feet in size, which would be mounted on the PV racking system and would allow the PV string voltages to be placed in parallel, increasing the DC. Electricity from panel combiner boxes would be gathered via an underground or rack-mounted DC collection system from the arrays to centralized inverters. The Revised Project would use between 27 and 30 boxes per power array depending on the technology used.¹ The Revised Project would also use approximately 151 inverters and 151 transformers that would be located as sets of one inverter and one transformer on a shared foundation² The inverter systems would not be enclosed; they would be mounted on concrete foundations or steel piers, with the entire structure being approximately 8 feet wide by 40 feet long by 10 feet high. There would be one of these structures per power array.

The DC would be converted to alternating current (AC) by the inverters, stepped up by the transformers, and transmitted to the proposed substation via 34.5 kV (AC) medium-voltage collection lines. The medium-voltage collection lines would begin at the inverter-transformer foundation and would be located underground in trenches until the output from between 8 and 10 power blocks terminates in the collection breaker of the substation. The 34.5 kV collection wires located in the areas that are a distance of 1,000 feet or more from the collection breakers in the switchyard and outside the PV field may be mounted overhead on standard wood or steel poles along the site boundary. These poles would be approximately 25 feet in height and spaced about 250 feet apart.

¹ A power array is defined as the array associated with one inverter/MV transformer. A power block is defined as the arrays tied together at the combining switchgear. A power block is made up of approximately 20 power arrays. So, a power block would have about 600 boxes.

² Maximum noise level from the inverters will be 65Db at 3 feet.

B.4.3 Revised Electric Substation Components

The Revised Project includes the same operations and maintenance building as the Approved Project. The Revised Project also includes the same electric substation, except that the substation would now include a new microwave tower for the proposed secondary telecommunication communication system described in more detail in Section B.11. The microwave tower would be approximately 100 feet tall. The need for tower lighting to meet Federal Aviation Administration (FAA) requirements will be determined by an FAA study, if required, or aviation safety.

The number of substation transformers has also been reduced from five to two with each transformer containing approximately 12,500 gallons (as opposed to 10,500 gallons) of mineral oil each and would continue to be designed to accommodate an accidental spill of transformer fluid by the use of a concrete foundation with containment. No PCB-laden fluids would be used. A modular protection automation and control (MPAC) building for PG&E's switching station control and protection equipment would be located at the switching station site. A substation protection and control building will house the substation relaying and SCADA equipment near the substation site. There would also be a PV plant Operations and Maintenance (O&M)/control building to house the plant system's relay, protection, and SCADA equipment. Worker parking would be provided in a designated area near the O&M building.

B.4.4 Revised Internal Access Roads and Perimeter Road

This section has been revised to reflect that previously proposed gravel access roads on the project site would be replaced by dirt path transportation corridors. In addition, the Revised Project incorporates the Hollister Fire Department requirement for a perimeter road that would meet fire code requirements and provide safe access to the site in the event of an emergency in the project area.

For the Revised Project, space between rows of panels would be used as transportation corridors as needed for maintenance activities as well as for access for site safety. These transportation corridors would be dirt paths with no installation of gravel or compaction. An additional transportation corridor, a maintained fenced-off dirt path, would be placed south of Aguilas Creek and north of the perimeter fence line. This transportation corridor would provide access to the western portion of the Valadeao Ranch Conservation Lands from Little Panoche Road for landowners and ranchers. Project roads are shown in Figure B-3 (Project Roads).

The required perimeter road would be 20 feet wide with pullouts every 2,500 to 3,000 feet. Pullouts would be approximately 20 feet wide by 300 feet long. Portions of the perimeter road that cross on-site federally jurisdictional washes would be used only for emergency access or for limited maintenance to cables within the bridge crossing at Las Aquilas. There are five planned crossings of federally jurisdictional washes. Crossings would be designed based on the United States Army Corps of Engineers (USACE) 404(b)(1) analysis and the *Least Environmentally Damaging Practicable Alternative*. The two crossings on the western side of the project would utilize single-span bridges, whereas the three crossings on the eastern side of the project would involve installation of a pipe arch culvert, low water crossings and filling/grading of washes. The locations of all five crossings of federally jurisdictional washes are identified on Figure B-3.

The crossings would be located outside areas where blunt-nosed leopard lizard have been observed (and associated buffers). Potential impacts to biological resources and jurisdictional waters from the perimeter road for the Revised Project are addressed in Section C.6 (Biological Resources) and Section C.15 (Water Resources). Both single-span bridge crossings are associated with the new perimeter road. One bridge is located along the western boundary of the Revised Project site, where the perimeter road

crosses Las Aguilas Creek. The second bridge is located near the southern boundary of the Revised Project site, where the perimeter road crosses Panoche Creek. The areas of ground disturbance for the two new bridges are shown on Figure B-3.

Federal crossings will be permitted through obtaining a USACE Section 404(b)(1) permit and 401 Certification by the Regional Water Quality Control Board. The crossings of washes, creeks, and drainages that are potentially waters of the state and regulated by the California Department Fish and Wildlife (CDFW), will be permitted through a CDFW Lake and Streambed Alteration Agreement (LSAA).

B.4.5 Lower Wildlife Gap in Security Fencing

This section has been revised to reflect that the gap along the bottom of the Revised Project securing fencing would be 5 to 6 inches rather than 2 feet as described in the 2010 Final EIR. This change is based on consultation with CDFW and USFWS.

The fence around the project site would be smooth-top chain link in the upper portion, smooth wire in the bottom portion, and a height of 6 feet. Fencing around the site would be 4 feet of chain link with a 5- to 6-inch gap from ground surface to fence bottom to allow for wildlife movement. Fences around the O&M building would utilize the same plan, unless otherwise determined by CDFW and USFWS. Gated 8-foot-high chain link fences would be constructed around the substation per PG&E's standard, and temporary fencing may be placed around construction staging areas. All permanent materials would be industrial strength with galvanized steel to aid visual dulling over time.

B.4.6 Revised Water Storage and Treatment Facilities

The 2010 Final EIR stated that a lined evaporation pond, along with permanent and temporary storage tanks would be located near existing well sites to store and treat water used for construction and operation. The locations of these permanent water storage tanks, as well as the type and amount of temporary water storage have been modified for the Revised Project. In addition, the lined evaporation pond described in the 2010 Final EIR has been eliminated.

In order to accommodate water usage during construction, the Applicant proposes to construct three temporary construction water ponds with a combined capacity of approximately 4.4 million gallons, along with three temporary 20,000-gallon water tanks near existing or new wells. Temporary exclusionary fencing would be installed around the ponds for safety and to restrict access by special status species. The temporary ponds would be removed at the end of construction. Temporary piping would be used to transport water from the ponds to drop tanks at designated locations around the project site. Permanent piping would be installed from permanent water storage tanks to operations and maintenance (O&M) building for use during operations, including providing water to the fire suppression system.

As described in the 2010 Final EIR, approximately four permanent water storage tanks located near the O&M facility would store water required for panel washing. Panel washing requires water with very low total dissolved solids (TDS). If required, a filter would be installed to filter TDS from the well water source. No reject water would be produced during the filtering. The filter would be a self-contained cartridge filter attached directly to the well (if needed); therefore, all water would flow through the filter from the well, and no reject water would be produced. The filter would be replaced as needed to maintain appropriate water filtration levels.

B.5 Revised Solar Project Site Design & Engineering

B.5.1 Reduced Site Disturbance Area

This section has been revised to reflect changes in the footprint of the Revised Project. Total permanent impacts were estimated at 2,437 acres for the originally proposed project in the 2010 Final EIR, and 2,203 acres for the Approved Project. For the Revised Project the total estimated permanent disturbance would be 1,888 acres. See Table B-2 for a breakdown of permanent project impacts as compared to the impacts presented in the 2010 Final EIR.

Permanent disturbance to the site would result from construction roads, the substation and O&M facility, parking areas, equipment pads, and PV rack posts.

Table B-2. Panoche Valley Solar Project Permanent Project Impacts Summary

Permanent Project Feature	Final EIR Proposed Project	Approved Project	Revised Project
Solar arrays	2,200 acres*	Not specified	1,629 acres
Project perimeter roads (including pullouts)	168 acres	Not specified	30 acres
Access roads	Not specified	Not specified	Not specified
Substation, switchyard, and O&M building	12 acres	Not specified	12 acres
Designated laydown areas	95 acres	Not specified	104 acres
Graded areas	200 acres	Not specified	392 acres
230 kV Loop-in tubular steel poles (TSPs)	Not specified	Not specified	Twelve 2-foot diameter TSPs
Collector lines (block feeder and switchgear feeder)	37 acres	Not specified	192,500 linear feet
Perimeter fencing	Not specified	Not specified	99,575 linear feet
Vasquez County Road	Not specified	Not specified	4 acres
Total permanent disturbance	2,437 acres	2,203 acres	1,888 acres

* The 2010 Final EIR stated there would be 2,437 acres of disturbance, which included PV panels, substation with switchyard, buried electrical conduit, O&M building, onsite access roads, security fencing, and other disturbances. To determine the impact acreage attributed specifically for solar arrays as analyzed in the 2010 Final EIR, the acreage associated with the other project features identified in the 2010 Final EIR has been subtracted out of the 2,437 acres to identify the acreage for solar arrays

Limited grading is expected to be required because of the nearly flat terrain. Grading would be required on slopes greater than 3 percent for PV power blocks. Final grading plans for the project are currently under development; however, the Revised Project includes 392 acres of proposed area that will be graded along with the general layout for trenching of underground electrical lines and maps of the perimeter access roads. Unless the panel area overlaps with the graded area, no ground preparation such as disking/harrowing/rolling is proposed. The permanent *internal* project roads described in the 2010 Final EIR have been replaced with transportation corridors. Interstitial space would be used as transportation corridors between the rows of panels as needed for maintenance. These transportation corridors would be dirt paths with no grading, gravel, or compaction. An additional transportation corridor, a maintained fenced-off dirt path, would be placed south of Aquilas Creek and north of the perimeter fence line. This transportation corridor would replace the existing Vasquez Creek Road and would provide access to the western portion of the Valadeao Ranch Conservation Lands from Little Panoche Road for landowners and ranchers.

Solar panels and associated electrical equipment would be installed on approximately 185,000 support post foundations. Posts would be steel I-shaped sections with a cross sectional area of 4.5 square inches each. Concrete foundations associated with inverters and MV transformers would impact approximately 96,000 square feet (151 foundations total). Combining switchgear concrete foundations would disturb

approximately 9,000 square feet (11 foundations). Each of these areas is included within the solar array disturbance calculation in Table B-3.

The entire substation, switchyard, and O&M building area would be permanently disturbed through grading, installation of concrete foundations, placement of Class 2 base (gravel), and drilled concrete piers. Laydown areas would be located along Little Panoche Road near access points for the construction team. These areas may be permanently graded or aggregate material installed to allow for use of these areas during operation of the project.

The existing Vasquez Road would be replaced with a new road that would run outside of the project fenceline south of Las Aquilas Creek.

In addition to permanent impacts from project infrastructure, temporary impacts associated with construction of permanent project features and material and equipment staging will take place on the site. Temporary impacts were not estimated in the 2010 Final EIR, but are summarized below in Table B-3 for the Revised Project.

Table B-3. Panoche Valley Solar Temporary Project Impacts Summary

Temporary Project Disturbance	2010 Final EIR/ Approved Project Acres Impacted	Approximate Impact Area (acres)
Road construction buffers	Not specified	55
Perimeter fence installation buffers	Not specified	45
Federal crossing work areas	Not specified	4
Work areas	Not specified	740
Collector lines installation	Not specified	9
Construction ponds	Not specified	4
Total	Not specified	857

Road construction buffers assume approximately 10 feet to 30 feet of temporary disturbance along perimeter roads, Vasquez Road and the perimeter fence. Approximately 28 acres of the temporary buffer area overlaps with permanent features.

Temporary work areas necessary for installation of crossings over federal jurisdictional waters would be outside of the ordinary high water mark. The designated work areas used to calculate temporary disturbance in Table B-3 would be used primarily for staging of construction equipment, material storage and work areas for construction of permanent Revised Project features. This area was calculated by taking the total Revised Project area of 2,506 acres and subtracting the solar arrays, perimeter roads, designated laydown areas, substation, switchyard, and O&M Building. Included in this impact area are the four permanent work areas needed for the TSPs used to loop in existing 230 kV transmission line into the project switchyard. These work areas overlap with the permanent graded areas around the switchyard, substation, and perimeter roads and fence as shown in Figure B-4 (Temporary and Permanent Ground Disturbance).

Collector line construction buffers overlap with permanent impacts associated with installation of solar arrays. Approximately 3 acres of temporary disturbances associated with Construction Ponds overlap with laydown areas.

B.5.2 Erosion Control

This section has not been modified for the Revised Project; information is summarized from the 2010 Final EIR. Construction erosion will be controlled by Best Management Practices (BMPs) defined in a storm-water pollution prevention plan (SWPPP) that would be prepared prior to project construction. The SWPPP would outline the specific techniques for minimizing erosion and runoff. During project operation, a vegetated understory composed of indigenous flora species consistent with existing vegetation including annual grassland vegetation would be planted under the panels. The vegetation would be kept to a height of less than approximately 18 inches by planting slow-growing grass native to the region and through short-duration intensive grazing by sheep, described in Section B.5.8, Revised Fire Safety Plan.

B.5.3 Utilities

This section has not been modified for the Revised Project; information is summarized from the 2010 Final EIR. Electricity during construction and operations would be obtained by a metered tap of the local existing 12 kV power grid and from portable, diesel-powered on-site generators. Water would be obtained from on-site wells. Portable sanitary facilities would be required during construction. Wastewater and solid waste would be hauled to appropriate treatment plants, recycling centers, or landfills. A supervisory control and data acquisition (SCADA) system located in the O&M Building, which would be used for project communications and would allow for control and access to the PV panels, substation, telephone system, and all other systems of communication.

B.5.4 Revised Water Use During Construction and Operation

As discussed in the 2010 Final EIR, water would be needed during construction, annual cleaning of solar panels, and ongoing operations and maintenance for the PVS project. Based on the new construction schedule and engineering and construction methodology refinements for the Revised Project, construction water usage would increase substantially from estimates in the 2010 Final EIR, although construction and operational water usage would no longer overlap. Table B-4 summarizes changes to anticipated water usage. Changes in water usage are based on the analysis in the Geological Groundwater Technical Report, which is also summarized in Section C.15. The Revised Project would require substantially less water during operations than what was described in the 2010 Final EIR. This decrease in operational water need is primarily related to a reduction in solar arrays proposed; resulting in less panel washing. Accordingly, long-term water usage associated with the Revised Project would be reduced compared to the Approved Project.

Table B-4. Water Usage in 2010 Final EIR Compared with 2014 Revised Project

Project Phase	2010 Final EIR Water Usage		2014 Revised Project Water Usage	
	Acre-feet	Gallons	Acre-feet	Gallons
Construction				
Peak daily demand	0.13	42,361	1.72	581,250
Peak annual demand	38.57	12,568,089	314.87	102,600,000
Total construction usage	131.23	42,761,482	385.15	125,500,500
Operations				
Annual demand	25.48 acre-feet		2.84 acre-feet	

Water supplies would be provided through the pumping of groundwater from the Panoche Valley Groundwater Basin, using existing water wells or new wells. During construction, water would be used for dust control and sanitary facilities. During project operation, water would be used for sanitary facilities, panel washing, fire suppression requirements, and for livestock (sheep) watering, if needed. Panel

washing would occur, at most, two times per year and would require an estimated 2.84 acre-feet of water annually, assuming approximately 1 million panels. Approximately 0.05 acre-feet (16,000 gallons) of water would be required for the O&M facilities and fire suppression. Potable water for the O&M facilities would be piped directly from the water well closest to the O&M facility. Sheep watering may require an estimated 0.35 to 0.56 acre-feet per year.

On-site water sources include several wells interspersed throughout the project site and accessible from the laydown areas. Filters would be installed as needed to treat well water that does not meet water quality standards, such as elevated TDS levels that could damage panels. Off-site water deliveries used for dust suppression or site stabilization are not anticipated

B.5.5 Other Wastewater

This section has not been modified for the Revised Project; in summary, a septic tank and leach field would be constructed alongside the laydown area near the O&M building.

B.5.6 Landscape Design

This section has not been modified for the Revised Project; however, for areas requiring restoration in accordance with adopted Mitigation Measure BR-G.3, Habitat Restoration and Revegetation Plan, paragraph(4), the Applicant has requested a change, as detailed below in Section B.10 (Applicant Proposed Measures). As stated in the 2010 Final EIR, landscaping in disturbed areas would typically use native plant stock whose origin is close to the project area. Salvaged topsoil would be used to promote re-establishment of existing plant communities from the existing seed bank if available. Erosion and sediment control measures would be implemented in revegetated areas to minimize soil movement and improve the potential for revegetation. If revegetation cannot be conducted immediately following completion of construction, appropriate interim erosion control measures, as detailed in the SWPPP, would be installed until revegetation occurs. Examples of interim erosion control measures include certified weed-free straw mulch, fiber rolls, or straw bale barriers.

B.5.7 General Safety

This section has not been modified for the Revised Project; it is summarized here from the 2010 Final EIR. Emergency response plans would be developed for construction and operations. On-going training would occur per Occupational Safety and Health Administration regulations. Emergency response plans would be developed in consultation with the Hollister Fire Department, San Benito County Public Health Department, and other agencies with jurisdiction over emergency response at the project site.

B.5.8 Revised Fire Safety Plan

This section has been modified for the Revised Project to reflect that sheep grazing would be used only if there is adequate forage available on the site.

Vegetation at the site would be kept to a height of less than approximately 18 inches. Short-duration intensive grazing by sheep may be used to maintain vegetation, depending on the amount of forage available on the site. The number of sheep required to appropriately graze the feed produced on the project site would vary seasonally depending on the rainfall and temperature of each grazing season. During normal rainfall years, anywhere from 1 to 3 bands of sheep (with each band consisting of between 750 and 1,200 adult sheep and offspring, depending on the season) would graze the project site during the winter and spring months (January to May) to use the amount of forage produced prior

to and during that season. The Applicant would construct new sheep fencing as necessary. The sheep would be removed from the site during the remainder of the year.

Three water tanks holding approximately 20,000 gallons per tank would be located at existing or new well sites. These tanks would have universal adapters to enable fire trucks to refill with water at the project site.

MPAC & Substation Building Fire Suppression shall follow the PG&E standard which is NOVEC 1240 clean agent flooding system for fire suppression, or similar, subject to local building permit official approval. Novec fluid, manufactured by 3M, is an environmentally friendly Halon replacement for use as a gaseous fire suppression agent. It is generally used in situations where water from a fire sprinkler would damage expensive equipment or where water-based fire protection is impractical.

B.6 Interconnection and Network Upgrades

B.6.1 Updated Interconnection Process Information

This section has been modified to reflect results of the Interconnection Reassessment Study Report released by the California Independent System Operator (CAISO) on September 18, 2013. The project would interconnect to the regional electricity grid at the Pacific Gas and Electric Company (PG&E) Moss Landing–Panoche/Coburn-Panoche 230 kV transmission line on the Revised Project site.

CAISO and PG&E completed the Cluster 3-4 Phase II interconnection studies in accordance with the CAISO Tariff Appendix Y Generator Interconnection Procedures (GIP). The Cluster 3-4 Phase II report was sent out on November 5, 2012. This was followed up with addendums the latest one being issued on May 29, 2013.

In accordance with the latest CAISO Generator Interconnection and Deliverability Allocation Procedures (GIDAP) Tariff Appendix DD, CAISO and PG&E performed a reassessment prior to the beginning of the Queue Cluster 5 (QC5) Phase II Interconnection Study. The reassessment evaluates the impacts on the Network Upgrades identified in previous interconnection studies due to Interconnection Request withdrawals, transmission additions and upgrades approved in the most recent Transmission Planning Process cycle.

The studies that were conducted relevant to the project are outlined in Section B.6.2 below. The details of the reassessment study are provided in the main body of the Fresno Reassessment group report. The reassessment concluded that many of the network upgrades identified in the pre-Cluster 5 Studies could be removed. In September 2013 the ISO issued the results of its first annual Generation Interconnection and Deliverability Allocation Procedures reassessment study. Projects affected by the reassessment in PG&E were issued an individual reassessment study report documenting the elimination of network upgrades resulting from project withdrawals. The ISO later determined that the reports were incomplete because they did not take the next step and reallocate the remaining network upgrades costs, originally allocated to withdrawn projects, among the remaining projects within a study group.

Subsequently, ISO issued a technical bulletin titled “Reassessment Process Reallocation of Cost Shares for Network Upgrades” on October 29, 2013 describing the process for the reallocation of cost shares for network upgrades impacted by the reassessment process. Based on the inputs from the stakeholders ISO decided to update the cost allocation percentages for the projects.

B.6.1.1 Power Purchase Agreement

In August 2014, the Applicant obtained a 20-year power purchase agreement with Southern California Edison for electricity generated by the Revised Project.

B.6.2 Revised On-Site Interconnection Facilities

This section has been modified to reflect new design details that were not available for the 2010 Final EIR.

As described in Section B.1 of the 2010 Final EIR, connection of the Revised Project will be performed through a loop-in from the project's switchyard to the PG&E 230 kV transmission line that passes through the project site. The switchyard will be constructed by the Applicant and ownership will be transferred to PG&E. The PG&E switchyard will be known as the Las Aguilas Switchyard. This section provides updated information concerning the utility facilities and upgrades that may be needed to interconnect the project to PG&E's electrical system. The primary interconnection facility for this project would be a switchyard located to the north of the existing PG&E transmission line on site. The Revised Project switchyard design details would be developed in consultation with PG&E.

The location of the interconnection between the Revised Project and PG&E's Moss Landing–Panoche/Coburn-Panoche 230 kV transmission line is shown in Figure B-5 (Interconnection Facilities). This figure includes locations of work areas and permanent features needed to connect the Revised Project's switchyard into PG&E's existing 230 kV transmission line. As shown in Figure B-5, it is anticipated that four pairs of new tubular steel poles (TSPs) would be required: two pairs within the existing transmission right-of-way and one pair on either side of the PG&E switchyard. There would be four temporary work areas to allow for construction of up to 8 approximately 85-foot tall tubular steel poles (TSPs). Additional TSPs may be required once final design is complete; however, the number of TSPs will not exceed twelve.

All ground disturbing work associated with the construction of the new TSPs that would loop into the PG&E switchyard would be performed within the defined Revised Project footprint. PVS would prepare the ground, as required, including performing all required clearances for biological resources. This will occur prior to PG&E's installation of the TSP foundations. PG&E's installation of TSPs and their foundations would occur only in areas where ground preparation has been completed by PVS.

PG&E would also remove two existing lattice towers within the project footprint (in the existing PG&E right-of-way). The tower foundations will be demolished to approximately three feet below grade.

B.6.3 Transmission System Telecommunications Upgrades

Upgrades to PG&E's telecommunications system that are required for the Revised Project are addressed in Section B.11.

B.7 Revised Solar Project Construction Components

B.7.1 Revised Phasing Plan

The Revised Project would be constructed over an approximately 18-month period starting in 2015, rather than the five phase/five year approach described in the 2010 Final EIR.

B.7.2 On-Site Panel Assembly

This section has not been modified for the Revised Project. Panel assembly would occur on site. Panel components, including PV panels and racks, would be transported to the laydown areas by container truck. The steel rack assemblies would then be constructed at each power block location, and the PV panels would be lowered onto the racks with final fastening being performed at the power block.

B.7.3 Substation Construction

This section has not been modified for the Revised Project. The substation would be constructed by a contractor selected by Applicant in accordance with its Engineering, Procurement, and Construction contract specifications.

B.7.4 Panel Installation

A pre-fabricated racking system would arrive on site to be assembled and grounded at the site. Pre-assembled PV panels would arrive on site and be placed in a staging area inside or on shipping containers. Panels would be put in place manually, and secured to the rack per vendor specifications. The rack would be populated with panels, wired in series, and connected to a DC combiner box, which would deliver DC power to the local inverters.

B.7.5 Laydown Areas

This section has been modified to reflect the shorter construction schedule for the Revised Project. The laydown areas would cover a total of 104 acres (as shown in Table B-3). Each laydown area would be located to accommodate access for construction traffic via County roads. The laydown areas would require a power source for temporary lighting, which would be supplied by a portable generator. Figure B-4 illustrates temporary construction areas.

B.7.6 Increase in Peak Construction Personnel

This section has been revised for the Revised Project's shorter construction schedule. While the Revised Project includes the same types of construction personnel that was described in the Final 2010 EIR, as a result of the shorter construction period, substantially more personnel would be required during the approximately 18 months of construction. In addition, the definition of daytime work would be revised from 7:00 am to 7:00 pm year-round to sunrise to sunset as described below.

The workforce at the project will vary based on the work activities conducted at the site; however, the estimated number of individuals has increased from a 2010 range of 70–200 to the current range of 100–500 individuals during the day and from 30–70 (2010) to 20–50 (2014) individuals at night. These estimates are in line with the total of the original estimates for each phase if all phases were constructed simultaneously.

Construction activities would be permitted from sunrise to sunset (as published by the National Oceanic and Atmospheric Administration), as early as 5:00 am to as late as 9:00 pm, depending on the time of year. In addition, the 2010 Final EIR described daytime work hours as 7:00 am to 7:00 pm, evening work hours as 7:00 pm to 10:00 pm and nighttime work hours as 10:00 pm to 7:00 am. No ground disturbing activities (including but not limited to grading, pile driving, trenching) would take place at night. Night-time construction activities would be limited to the following:

- Minor non-ground-disturbing activities such as commissioning and maintenance activities to be performed when PV arrays are not energized;
- Interior use of the operations and maintenance facility;
- Unanticipated emergencies (defined as an imminent threat to life or a significant property interest), including non-routine maintenance that requires immediate attention;
- Special status species impact avoidance and minimization activities and research (e.g., giant kangaroo rat trapping and San Joaquin kit fox radio telemetry); and
- Security patrols.

There would be no on-site temporary workforce housing, and parking of employee recreational vehicles or trailers would be prohibited.

B.7.7 Increase in Peak Construction Traffic

This section has been revised to reflect the shorter construction schedule and increased personnel requirements for the Revised Project.

Construction of the project substation may require temporary closure or partial closure of roadways around the project site.

As described above, the estimated workforce traveling to/from the site daily would be larger than originally analyzed in the Transportation and Circulation section of the 2010 Final EIR. Table B-5 provides estimates of daily traffic counts anticipated to be generated by the Revised Project during peak construction periods. The daily traffic was estimated based on work shift information provided by the construction contractor for the Revised Project. As discussed in the 2010 Final EIR, all truck traffic and deliveries, along with approximately 40 percent of personal vehicle traffic would enter the site from the north on Little Panoche Road. In order to accommodate this increased daily traffic volume and decrease safety risks to personal traffic, the Revised Project would allow the remaining personal vehicle traffic to enter the site from the west on Panoche Road. Consistent with the 2010 Final EIR Section C.14.3.3, material deliveries and other truck traffic would be limited to using Little Panoche Road.

Table B-5. Estimated Daily Traffic, 2010 Final EIR Proposed Project and 2014 Revised Project

	2010 Final EIR	Revised Project Peak	Revised Project Average
Employees	200	550	200
Employee daily trips	268	950	400
Assumed vehicle occupancy	1.5	1.2	1.2
Material delivery trips	30	200	120
Total daily trips	298	1,150	520

Table B-6 presents the comparative construction traffic data for the 2010 proposed project and the Revised Project.

Table B-6. Construction Traffic Specifications, 2010 Final EIR Proposed Project and 2014 Revised Project

Traffic Type	2010 Final EIR Total One-Way Trips	Revised Project Total One-Way Trips	2010 Final EIR Average Daily One-Way Trips	Revised Project Average Daily One-Way Trips	Trip Types: On-site Local = 40 miles or less Remote = > 40 miles
Aggregate base material	1,320	10,000	4	15	Local
Backhaul excess cut	1,320	1,320	4	4	On-site
Water trucks, dust control	66,000	50,000	40	100	On-site
Concrete raw material	1,980	1,980	6	5	Local
PV panel delivery	8,250	2,250	5	20	Remote
Substation equipment	1,200	1,200	5	5	Remote
Electrical materials	3,300	3,300	2	15	Remote
Total	83,370	70,050	66	164	N/A

In all categories except aggregate base material truck trips, the total number of truck trips would be reduced under the Revised Project. Aggregate base material truck trips would increase due to the requirement by the Hollister Fire Department to construct an all-weather perimeter road around the project site. While decreases in overall traffic numbers may result in a net decrease in air emissions from construction traffic, the increase in daily traffic numbers and a condensed construction schedule would affect daily air emissions rates estimated in the 2010 Final EIR. These potential impacts are addressed in Section C.14 of this Supplemental EIR.

Personnel Traffic. As detailed above under Section B.7.6 Construction Personnel, the workforce at the project will vary based on the work activities conducted at the site; however, the estimated number of individuals has increased to 100 to 500 individuals during the day and 20 to 50 individuals at night.

As described above, the estimated workforce traveling to/from the site daily has increased from that originally analyzed in the Transportation and Circulation section of the 2010 Final EIR. Table B-5 above provides estimates of daily and peak traffic counts anticipated to be generated by the Revised Project during construction.

Origin and travel distance for workers are estimated in the 2010 Final EIR as follows:

- 5 percent from Panoche Valley (up to 5 miles);
- 75 percent from Hollister area (approximately 45 miles); and
- 20 percent from San Benito County, Santa Clara County, and Fresno County (up to 60 miles).

As discussed in the 2010 Final EIR, the project proposes that all truck traffic and deliveries, along with approximately 40% of personal vehicle traffic enter the site from the north on Little Panoche Road. In order to accommodate this increased daily traffic volume and decrease safety risks to personal traffic and reduce traffic through biologically sensitive areas, the project proposes to allow the remaining personal vehicle traffic to enter the site from the west on Panoche Road.

Delivery Traffic. Routes for trucks hauling materials and construction equipment would primarily follow the I-5 corridor to Little Panoche Road, allowing for safer travel by larger container trucks and wide-load trucks carrying heavy equipment. As discussed in the 2010 Final EIR, the project proposes that all truck traffic and deliveries enter the site from the north on Little Panoche Road. Despite an increase in the number of daily traffic numbers shown in Table B-5. Estimated Daily Traffic above, the cumulative total traffic trips during construction associated with each project component that would require transport to

or from the Revised Project site has decreased overall. No other changes to the delivery traffic are proposed with the Revised Project.

Material delivery would include all components of the switchyard, O&M building, fencing, PV panel components, inverters, and additional miscellaneous items. Material deliveries would originate at manufacturing sources within California and from shipping ports along California's coast. It is anticipated that material deliveries would occur via I-5. Smaller deliveries may arrive to the site via Hollister and/or via County roads. Table B-7 describes the delivery truck type for each project component.

As described in the 2010 Final EIR, material deliveries would be on-going throughout construction; much of the heavy construction equipment would arrive to the site early and stay for the duration of construction. Table B-7 describes the projected number and length of daily truck deliveries.

Table B-7. Delivery Truck Type by Project Component

Project Component	Truck Type
Solar panels	Standard width 53' van
Inverters	Standard width 48' flatbed trailer
Steel mounts	Standard width 48' flatbed trailer
Transmission poles	Standard width 48' flatbed trailer
Substation steel	Standard width 48' flatbed trailer
Substation circuit breakers	Standard width 48' flatbed trailer
Substation transformers	48' lowboy trailer with pilot cars
Auxiliary substation equipment	Standard width 48' flatbed trailer
Crane (35-ton)	48' lowboy trailer with pilot cars
Crane (60- to 100-ton)	Wide-load self-propelled trucks with 2 jib companion flat beds
Pre-manufactured concrete	Concrete mixer

On-site Vehicle Movement During Installation

Vehicles Entering and Traversing the Site. During installation, traffic would enter the site at the specified laydown areas. Vehicles would travel along Little Panoche Road, and Panoche Road. Table B-8 describes construction vehicles and equipment that would generate emissions.

Table B-8. Construction Vehicles and Equipment

Vehicle Traffic Use	Vehicle Type	Max Weight (lbs)	Max Power (hp)	Tread Type	Frequency of Use (hrs/day)	Quantity Onsite
On-road equipment (grading & travel on main roads)	Scraper	77,800	313	Dual Axle	8 hrs/day	1
	Grader	30,000	174	Dual Axle	6 hrs/day	1
	Dozer	44,582	357	Tractor	6 hrs/day	1
	Backhoe loader	13,046	108	Dual Axle	8 hrs/day	1
	Roller	27,340	95	Dual Axle	8 hrs/day	1
	4,000-gallon water truck	55,000	189	Triple Axle	8 hrs/day	3
Off-road equipment (between PV power blocks and for panel installation)	Excavator	36,000	168	Tractor	8 hrs/day	4
	Roller	27,340	95	Dual Axle	8 hrs/day	1
	Backhoe loader	13,046	108	Tractor	8 hrs/day	1
	Trencher	5,500	63	Dual Axle	8 hrs/day	1
	Drill rig truck	55,000	291	Triple Axle	20 hrs/day	4
	Crane	28,800	399	Dual Axle	8 hrs/day	1
	Forklifts	20,000	93	Dual Axle	16-24 hrs/day	4

Table B-8. Construction Vehicles and Equipment

Vehicle Traffic Use	Vehicle Type	Max Weight (lbs)	Max Power (hp)	Tread Type	Frequency of Use (hrs/day)	Quantity Onsite
	Generators	n/a	549	n/a	8 hrs/day	multiple
	Grader	30,000	174	Dual Axle	6 hrs/day	1
	Plate compactor	n/a	8	pad	8 hrs/day	2
	Pickup trucks	10,000	250	Dual Axle	16-24 hrs/day	8
	Welders	n/a	45	n/a	8 hrs/day	2

Power Block Installation. Vehicles needed for installation of PV panels would travel on both permanent and temporary site roads. These vehicles would include trucks, drilling rigs, forklifts water trucks, and cranes for lifting inverters onto piers.

Drainage Crossing. Roads that require a drainage crossing would be engineered to the specifications that allow for the weight of vehicles to cross without causing destabilization in the drainage areas. All reasonable efforts would be made to keep drainage crossings to a minimum.

B.8 Revised Solar Project Operations and Maintenance

The only change in the Solar Project Operations and Maintenance is that the entire Revised Project is expected to be fully operational in the year 2016, as opposed to year 2015. Like the Approved Project, the Revised Project is expected to be in operation for at least 30 years, with the possibility of a subsequent re-powering of the project for additional years of operation.

Operations Personnel. The Revised Project does not propose changes to the operations personnel. The full-time staff of the project is expected to consist of a site manager, electrician, technician and maintenance/wash crew, and security personnel. The operations staff would consist of up to 50 persons once construction has been completed.

Security. The project would be fenced to prevent access by the public to ensure public safety and protect equipment from theft and vandalism. Gates would be installed at all site access roads. PVS would provide 24-hour security at the site.

Maintenance. Once installation is complete and the site is fully operational, all traffic would enter the site at the switchyard location off of Little Panoche Road. The facility would be restricted to O&M staff and security personnel only and authorized guests. Inverters would be checked twice annually for general component maintenance. Damaged or underperforming PV panels, mechanical fasteners, and inverters would be replaced as required.

Washing. To optimize performance of the project, the PV panel surfaces would be washed up to twice annually during the dry season.

Lighting. During construction, localized and portable lighting would be used where work is occurring as needed. Lighting would be powered by generators and would include switches to cut power when lighting is not required during construction. During operation of the project, motion-sensor lighting would be used at the O&M building and substation. All lighting would point downward and be shielded to preserve dark skies, and would adhere to San Benito County's Lighting Ordinance (19.31.003-009).

B.9 Solar Project Decommissioning

This section has not been modified for the Revised Project. This description is summarized from the 2010 Final EIR. The project would be in operation for at least 30 years, with the possibility of a subsequent re-powering of the project for additional years of operation. Upon its eventual decommissioning, whenever that occurs, the Applicant or its successor in interest would be responsible for the removal, recycling, or disposal of all solar arrays, inverters, transformers and other structures on the site. As stated in the 2010 Final EIR, the Switchyard would be owned and operated by PG&E, and decommissioning would occur per the utility specifications at the time.

B.10 Changes to Applicant Proposed Measures for Revised Solar Project

The Applicant proposes revisions to the Applicant Proposed Measures (APMs) that were listed in the 2010 Final EIR. The reason for each proposed change and the effect of each on the 2010 Final EIR's analysis of environmental impacts are addressed in Section C. Changes are shown in Table B-9 with underlining for added text and strikeout for deleted text.

APMs that have not changed are presented in Appendix 3 (Section 3.2) for the convenience of readers, because they are already incorporated into the Approved Project based on the County's 2010 decisions. These APMs are not subject to comment as part of this Supplemental EIR.

Table B-9. Applicant Proposed Measures (APMs) Changed Since 2010

APM Number	Measure by Issue Area
Aesthetics	
APM AES-1	"Dulled" metal finish structures, and facility buildings painted in earth tones, will be used to reduce visual impacts <u>where feasible. The solar module cells will be blue or green toned and non-reflective. Certain electrical equipment, such as transformers and capacitors cannot be dulled. Equipment that cannot be dulled will have an ANSI gray manufacturer finish. The perimeter fence will also be galvanized steel.</u>
APM AES-3	Operation Lighting: During operation of the project, motion-sensor lighting will be used at each 2-MW block <u>the main entrance, substation and switching station</u> . The lighting will consist of energy-efficient lamps that will only be lit when human activity is detected. Motion sensors will have sensitivities set to avoid activating the lights when animal activity is occurring. This will be done to prevent startling animals and creating false alarms for security personnel. In addition to lighting, security cameras will be installed <u>onsite</u> . Constant lighting, at a low-level, <u>may</u> be required at the O&M building <u>for security and safety</u> . This will be a single lamp source near the entrance of the <u>O&M</u> building, which will be activated by a timer. All lighting will have a power switch to conserve energy when the lighting is not required.
Agriculture	
APM AG-1	Grazing sheep on the project site. Sheep <u>If necessary for vegetation control, sheep</u> would be grazed throughout the project site, except on the 50-65 acres where new roads and , buildings- Solar panels, switchyard/substation are constructed or where safety concerns would be raised <u>2 feet off the ground, which would allow sheep to graze underneath</u> prevent grazing . The grazing operation would be a rotational system using short-duration intensive grazing alternating with periods of rest. The project site would be divided into nine pastures, which would <u>could</u> provide forage for between 750 and 3,600 adult sheep depending on annual rainfall and temperatures. The project site would be grazed between January and May. The Applicant would construct new sheep fencing as necessary. Each pasture would have access to water from existing livestock watering facilities.

Table B-9. Applicant Proposed Measures (APMs) Changed Since 2010

APM Number	Measure by Issue Area
APM AG-2	<p>Allow grazing on lands covered by conservation easement created for biological resource mitigation. Cattle grazing would be used as appropriate to increase biodiversity and maintain the suitability of mitigation lands for protected species habitat. The grazing program would be developed in accordance with grazing BMPs outlined by the Bureau of Land Management and protected species habitat requirements as determined by the California Department of Fish and Game (DFG <u>Wildlife (CDFW)</u>) and the United States Fish and Wildlife Service (FWS <u>USFWS</u>). The grazing management plan would be developed, implemented, and monitored by the land trust or public conservation agency that holds the habitat conservation easement in consultation with DFG <u>CDFW</u> and FWS <u>USFWS</u>.</p>
Air Quality	
APM AQ-2	<p>The Applicant shall implement the following BMPs to further reduce construction vehicle emissions (NOx, VOC, and DPM <u>Diesel Particulate Matter</u>) during project construction:</p> <ul style="list-style-type: none"> ▪ Maintain all construction equipment in proper tune according to manufacturer’s specifications; ▪ Use diesel construction equipment meeting CARB's <u>the California Air Resources Board's (CARB's)</u> Tier 2 standards for certified engines or cleaner off-road heavy-duty diesel engines (e.g., Tier 3 and Tier-4, where feasible), and comply with the State In-Use Off-Road Diesel Vehicle Regulation (<u>California Code of Regulations [CCR] Title 13, Article 4.8, Chapter 9, Section 2449</u>); ▪ Prohibit on and off-road diesel equipment idling for more than 515 <u>15</u> minutes, or within time necessary to comply with Title-13, California Code of Regulations-CCR, Section 2485 (c) (1) regarding idling of commercial vehicles. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of all idling limits; ▪ Prohibit diesel idling within 1,000 feet of sensitive receptors; ▪ Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors; ▪ Electrify off-road construction equipment when feasible; and ▪ Provide incentives for workers to use project-sponsored shuttle bus service <u>or carpooling</u>, where feasible.
APM AQ-3	<p>The Applicant shall reduce fugitive dust emissions during construction through implementation of the following best management practices to be shown on grading and building plans:</p> <ul style="list-style-type: none"> ▪ Water graded/excavated areas and active unpaved roadways, unpaved staging areas, and unpaved parking areas at least three times daily or apply chemical soil stabilizers per manufacturer recommendations. Frequency should be based on the type of operations, soil and wind exposure ▪ Apply chemical soil stabilizers or water on inactive construction areas (disturbed lands, including dirt stockpiles; ▪ All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or gravel for temporary roads; ▪ Gravel shall be placed on all <u>perimeter</u> roadways and driveways as soon as possible after grading for said roadways. ▪ All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114; ▪ Install wheel washers <u>gravel track systems</u> where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site, and inspect <u>vehicle equipment</u> tires to ensure free of soil prior to carry-out to paved roadways.
Biological Resources	
APM BIO-6	<p>Project boundary fencing will be constructed using chain link approximately 6 feet in height. The bottom of the chain link fencing will be elevated off the surface of the ground approximately 24 <u>5 to 6</u> inches to allow for wildlife movement across the project site.</p>

Table B-9. Applicant Proposed Measures (APMs) Changed Since 2010

APM Number	Measure by Issue Area
APM BIO-7	In construction areas where ground disturbance is significant or where recontouring is required, surface restoration would occur as required by the landowner or land management agency <u>as part of decommissioning</u> . The method of restoration would normally consist of returning disturbed areas back to their natural contour, reseeding, installing cross drains for erosion control, placing water bars in the road, and filling ditches.
APM BIO-8	Washes and streams should be avoided by the project including a 50-ft buffer as measured from the top of bank on both sides of these features.
APM BIO-9	Protocol surveys were completed for the entire Project Footprint and additional preconstruction surveys will be conducted during the April 15 to July 15 adult BNLL season prior to any completed within 30 days of ground disturbance associated with constructing the limited number of bridges necessary for the project. Therefore, in these few cases where complete avoidance of washes and streams are not feasible the project will establish 30-ft buffers from small mammal burrows (whether BNLL are detected at them or not) in wash bottoms and 50-ft buffers from any observed BNLL location in these features. These buffer zones will be demarcated by for each construction fencing to ensure that construction crews do not enter the avoidance zone. <u>area</u> . Monitors will be present during construction activities.
APM BIO-10	Protocol surveys will be conducted during the adult season period of April 15 to July 15 prior to any surface disturbance. Project elements will avoid all observations of BNLL based on a 5-acre buffer that will be encompass the sighting and include the best available habitat within this 5-acres; the closest edge of the buffer to the sighting will be 50 ft.
APM BIO-11	All construction activity including all vehicular traffic should be contained within the defined construction zone. The construction zone will be demarcated with exclusion fencing to ensure that a BNLL does not errantly wander into the construction zone. An onsite monitor will be present during all construction activity in this area. In addition, pre construction surveys will be conducted no more than 30 days prior to any surface disturbance and on-site monitor will be present during all construction activities to ensure that the project does not harm or injure individual BNLL. If a BNLL is detected during construction by the on site monitor, than the 5-acre buffer as described above will be established around this location and the project will avoid constructing any project elements within this buffer. The project will also implement all BMPs as discussed below. The BNLL Protection Plan will be implemented at the site for construction activities.
APM BIO-12	Preserve Undisturbed Onsite Lands. Of the total project site area of 4,885 acres , the applicant will limit the total permanent disturbance area to 1,888 acres <u>2,437 acres</u> (designating 2,448 acres for preservation) for solar blocks, roads, substation (including O&M building and transmission tower connections), parking lots, demineralization plant, evaporation pond, water tanks, washway crossings and utilities trenching. Prior to the issuance of building or grading permits for each phase of construction, the applicant will submit for the County's review and approval a site plan, building plan or grading plan, that delineates and calculates the total disturbance area for facilities proposed for that phase <u>area</u> of construction and will include a note on those plans that describes how these areas will be demarcated on the ground through the placement of appropriate staking, signage, or equally effective technique to ensure that construction is confined to the disturbance area. The applicant will implement on the ground demarcation of the disturbance area in accordance with the approved plan(s).

Table B-9. Applicant Proposed Measures (APMs) Changed Since 2010

APM Number	Measure by Issue Area
APM BIO-13	<p>On-site Conservation Measures for BNLL</p> <ul style="list-style-type: none"> ▪ Project is avoiding impacts by staying out of the floodplain and by buffering any <u>historic BNLL sighting by with a 1952.4-acre area (3 standard deviations from the mean male home range size of recent unpublished data for the Carrizo Plain).</u> ▪ Provide for connectivity of these avoided areas, <u>which will be largely accomplished via the avoided wash/creek habitat through the Valley Floor Conservation Land.</u> ▪ Project is also integrating a series of other avoidance measures by APM and MM to allow the applicant to construct and operate in a manner that will not result in take of individuals (e.g., protocol surveys prior to developing a phase, preconstruction surveys, education program of workers, site restrictions on access and operations, etc.). ▪ Restoration measures (soil stockpiling and revegetation efforts) will restore temporarily disturbed areas so they provide suitable areas for the species ▪ On-going monitoring based on the occupancy sampling will be used to determine changes in use of the site. ▪ This monitoring will inform an adaptive management approach to site management such as modifications of the grazing regime. The site will implement the BNLL Protection Plan that was included in the Biological Assessment and reviewed by the U.S. Fish and Wildlife Service.
APM BIO-14	<p>Off-site Conservation Measures for BNLL</p> <p>BNLL have yet to be been detected on the Mitigation Lands (Valley Floor Conservation Land and therefore their ability to compensate for habitat impacts is not presently known. Solargen will acquire 7,311 acres of lands that are suitable for BNLL. This could be the Silver Creek Ranch Conservation Land). These Mitigation Lands, some other lands known to support the species or a combination of the two are included in the Project's Conservation Management Plan.</p>
APM BIO-15	<p>On-site Conservation Measures for GKR</p> <ul style="list-style-type: none"> ▪ Project is also integrating a series of avoidance and minimization measures by APM and MM to allow the applicant to construct and operate in a manner that will not minimize <u>to</u> the extent practicable impacts to individuals (e.g., preconstruction surveys, translocation efforts, education program of workers, site restrictions on access and operations, etc.). ▪ Restoration measures (soil stockpiling and revegetation efforts) will restore temporarily disturbed areas so they provide suitable areas for the species. ▪ On-going monitoring based on the occupancy <u>Occupancy</u> sampling will be was used to determine changes in <u>use layout</u> of the site. ▪ This monitoring will inform <u>informed</u> an adaptive management approach to site management such as modifications of the grazing regime
APM BIO-16	<p>Off-site Conservation Measures for GKR</p> <ul style="list-style-type: none"> ▪ Mitigate at a 3:1 ratio ▪ Mitigate an additional 1:1 if after 5 years of monitoring the temporarily restored areas are found to no longer support the species. ▪ Mitigation Lands provide 10,331 acres of land (4.2:1 ratio of mitigation to impact) that on average support equivalent density of burrow clusters km² that the Project Site does. This is, <u>including Valley Floor Conservation Lands, Silver Creek Ranch Conservation Lands, and Valadeao Ranch Conservation Lands provide</u> greater than the 3:1 ratio required assuming the project maintains residual value in the temporarily disturbed areas that are restored on the Project Site and greater than the 4:1 ratio that would eventual be required if the project could not maintain the residual value for GKR in the temporarily disturbed areas. ▪ Monitoring of the site will permit an adaptive management program such as modifications of the grazing regime. ▪ Off-site lands will be managed by a third party such as the BLM or California Rangeland Trust, <u>selected in consultation with CDFW and USFWS.</u>

Table B-9. Applicant Proposed Measures (APMs) Changed Since 2010

APM Number	Measure by Issue Area
APM BIO-19	<p>Off-site Conservation Measures for SJKF</p> <ul style="list-style-type: none"> ▪ Mitigate 3:1 for loss of habitat, with an additional 1:1 if after 5 years of monitoring the temporarily restored areas are found to no longer support the species. ▪ Based on the Haight et al. (2002) spatial model, there are 1010 acres are of high suitability and 9,026 acres are of moderate suitability on the <u>portions of</u> Mitigation Lands. Therefore, the mitigation lands provide 10,036 acres of suitable habitat for the kit fox. The 10,036 acres that provide suitable habitat for kit fox on the Mitigation Lands results in a <u>4.1:1 replacement ratio. This is greater than the 3:1 ratio required assuming the project maintains residual value in the temporarily disturbed areas that are restored on the Project Site and greater than the 4:1 ratio that would eventual be required if the project could not maintain the residual value for kit fox in the temporarily disturbed areas minimum of a 4.1:1 replacement ratio.</u> In addition, <u>a SJKF corridor has been created through the center of the Project Footprint to allow for movement of the species.</u> ▪ Monitoring of the site will permit an adaptive management program such as modifications of the grazing regime. <p>Off-site lands will be managed by a third party such as the BLM or California Rangeland Trust.</p>
APM BIO-20	<p>Employee Education Program</p> <ul style="list-style-type: none"> ▪ The Employee Education Program familiarizes <u>Solargen-Applicant</u> employees and contractors with BMPs and other measures associated with <u>BNLL-protected species potentially on the project and in the vicinity.</u> This program is designed to ensure all personnel who work at the PVSF are aware of and can identify the <u>BNLL-species</u> and the measures implemented to avoid individuals of this species. In addition, contact names and numbers are given to which personnel can report incidents regarding <u>BNLL-protected species.</u> ▪ An employee environmental program (awareness) will be administered to all new employees and to all other employees every 2 years. Upon completion of the program, the employees are given a <u>badge or hardhat sticker</u> that is required for admittance onto the PVSF. <u>Badges will include the employee's picture and will be color-coded and dated in order to show that the employee is current with required training</u> ▪ Prior to beginning work at the PVSF, all new employees, contractors, and other personnel that work at the PVSF will complete an employee education program that includes a section on BNLL awareness. Personnel must take the Employee Education Program administered test. Training included in the Employee Education Program pertains to <u>BNLL-protected species</u> identification, <u>BNLL basic natural history</u>, components of avoidance program, familiarity with pre-construction surveys and what they are and how they are administered, BMPs, and how to report incidents involving <u>BNLL-protected species.</u> ▪ The employee or contractor for <u>Solargen-the Applicant</u> will be shown examples (i.e., pictures) of <u>BNLL-protected species</u> and their burrows, or other sign. Basic natural history facts for the <u>BNLL-protected species</u> will be included in information given to employees. All BMPs will be provided in easy to carry pamphlets for reference while working at the PVSF and mitigation lands. A review of the BMPs will be conducted for each employee and a test will be administered to verify that employees have a familiarity with the provisions in the BMPs.
APM BIO-21	<p>List of Best Management Practices (LOA 5/24/10). Refer to updated Supplemental EIR for a <u>list of Best Management Practices.</u> All employees and contractors will be made aware of the BMPs, and those BMPs that are pertinent to employee work conduct will be implemented. <u>They Applicable measures</u> are listed below <u>(a through r).</u></p>
APM BIO-22	<p>a) Prior to initiation of construction of in a project <u>Phase-area</u> (i.e., any activity that results in surface disturbance), a qualified biologist shall conduct a BNLL education program (e.g., tailgate briefing) for all project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of BNLL in the <u>project area adjacent areas</u>, take avoidance measures being implemented during the project, reporting requirements if an incident occurs, and applicable definitions and prohibitions under the Fish and Game Code for fully protected species, and relevant provisions of the federal and state Endangered Species Act.</p>

Table B-9. Applicant Proposed Measures (APMs) Changed Since 2010

APM Number	Measure by Issue Area
APM BIO-23	b) All activities that will result in permanent or temporary ground disturbances shall be preceded by protocol surveys prior to the construction and then by a pre-construction survey within 30 days of construction by a qualified biologist. The biologist(s) shall identify and clearly mark the location of areas where any BNLL were observed. A 50 ft buffer will be established around all sightings with highly visible markers.
APM BIO-24	c) A biological monitor(s) shall be present while ground disturbing activities are occurring. In addition to conducting preconstruction surveys, the biological monitors shall aid crews in satisfying take avoidance criteria for BNLL and implementing project mitigation measures. Biological monitors shall accompany vehicles and crews throughout the project area if the qualifying biologist considers it necessary in order to avoid individual BNLL
APM BIO-25	d) Biological monitors are empowered to order cessation of activities if take avoidance and/or mitigation measures are violated and will notify Solargen's the Applicant's environmental representative.
APM BIO-26	e) Unless biological monitors allow alterations to routes, all project vehicles shall be confined to defined access routes that will be staked and/or flagged. All observed BNLL shall be avoided by a flagged 50 ft buffer to alert project personnel to their presence. All project related flagging shall be collected and removed after completion of the project.
APM BIO-27	f) Solargen-The Applicant shall appoint a Solargen representative who will be the contact source for any employee or contractor who inadvertently kills or injures a BNLL or who finds a dead, injured, or entrapped individual BNLL. The representative will be identified during the pre-performance educational briefing.
APM BIO-28	g) Any contractor, employee(s), or other personnel who inadvertently kills or injures a BNLL shall immediately report the incident to their representative. The representative shall contact the Solargen-Applicant's environmental representative and, if feasible, a qualified biologist. Solargen-The Applicant will contact CDFG/CDFW immediately in the case of a dead, injured, or entrapped BNLL. The CDFG/CDFW contact for immediate assistance is State Dispatch at (916) 445-0045. State Dispatch will contact the local warden or biologist. The qualified biologist will also document all circumstances of death, injury or entrapment of BNLL. The biologist will 1) take all reasonable steps to enable the individual animal to escape should it be entrapped, 2) contact CDFG or other appropriate authorities to identify an approved rehabilitation center and appropriate capture and transport techniques should the covered animal be injured, and 3) document circumstances of death in writing and if possible photographing dead animal in situ prior to moving. Notification shall include the date, time, and location of the incident or of the finding of a dead or injured BNLL, and any other pertinent information. The USFWS contact for this information is the Endangered Species, Program Field Office, 2493 Portola Rd., Suite B, Ventura CA 93003. The dead covered animal can be transported to California State University at Bakersfield or the Endangered Species Recovery Team in Bakersfield for storage and research if CDFG approves.
APM BIO-29	h) To prevent inadvertent entrapment of BNLL-protected species, all open holes, steep-walled holes, or trenches more than 2 feet deep shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks (wooden planks should be more no less than 10 inches in width and should reach to bottom of trench). Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals.
APM BIO-30	i) All spills of hazardous materials shall be cleaned up immediately in accordance with the Solargen Spill Prevention Plan.
APM BIO-39	r) Upon completion of any Phase-Project component, all areas that are significantly disturbed and not necessary for future operations, shall be stabilized to resist erosion, and re-vegetated and re-contoured if necessary, to promote restoration of the area to pre-disturbance conditions.

Table B-9. Applicant Proposed Measures (APMs) Changed Since 2010

APM Number	Measure by Issue Area
Geology	
APM GEO-1	No structures shall be placed within 50 feet from the topographical feature along the western boundary of the project site unless trench exploration is undertaken by geotechnical engineer that demonstrates that the topographical feature is not fault related.
APM GEO-2	In order to avoid expansive clay and mitigate possibly disturbed surface soil, overexcavation of building and equipment pads will be considered, <u>as required by the geotechnical report.</u>
Hazards and Hazardous Materials	
APM HAZ-3	Sheep grazing under the panels will help to keep pasture growth controlled, and in a continued state of agricultural production, as necessary.
APM HAZ-5	Based on the remote location of the project site, a helipad will be constructed on site in accordance with the Federal Aeronautics Administration Advisory Circular No. 150/5390-2B "Helipad Design" to provide emergency transportation.
APM HAZ-6	Prior to energizing the project, the Applicant will install a reasonable number of electrical safety signage on all solar arrays in the immediate vicinity of all wiring and on all electrical conduit equipment using weather-resistant and fade-proof materials, <u>as required by applicable electrical code.</u> Warning signs will be designed to be evident to any person tampering with, working on, or dismantling project photovoltaic panels electrical system. Sign print language shall substantially conform to comply with the following language: "CAUTION: Solar PV Wiring May Remain Energized After Disconnection During Daylight Hours. Tampering With Wiring May Result <u>requirements in ELECTRIC SHOCK or FIRE. Death or Serious Injury May Result. Do Not Expose Wires to Vegetation or Other Flammable Materials.</u> " <u>applicable electrical codes.</u>
Population and Housing	
APM PH-1	At least thirty days prior to commencing construction of each phase, the applicant will provide construction contractors for that phase with information, including general information on the facility, telephone numbers, addresses and contact information, on temporary housing opportunities, including short term rental housing, hotels, motels, RV parks, and campsites with the ability to accommodate workers for periods of longer than one month in coordination with San Benito County and the San Benito County Chamber of Commerce. The information will be provided on a website, pamphlet or other written material.
Public Services and Facilities	
APM PSU-2	During operation of the solar farm, the project site would be maintained free of non- biodegradable debris trash.
APM PSU-3	During construction and operation of the solar farm, all disposable materials that are considered recyclable shall be separated <u>and properly recycled or reused in compliance with federal, State and local law or disposed of</u> as required by a facility authorized to accept such materials, and will be disposed of at such a facility.
APM PSU-4	Hazardous materials shall not be drained onto the ground or into streams or drainage areas. Totally enclosed containment shall be provided for all trash, as well as recyclable materials <u>containers.</u> All construction waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, shall be removed to a disposal facility authorized to accept such materials.
Water Resources	
APM WR-1	If they are damaged or destroyed by construction activities, water facilities <u>(i.e. physical damage to equipment or infrastructure)</u> would be repaired or replaced to their pre-disturbed condition as required by the landowner or land management agency.

Table B-9. Applicant Proposed Measures (APMs) Changed Since 2010

APM Number	Measure by Issue Area
APM WR-2	In construction areas where ground disturbance is significant or where recontouring is required, surface restoration would occur as required by the landowner or land management agency: <u>as part of Project decommissioning</u> . The method of restoration would normally consist of returning disturbed areas back to their natural contour, reseeding, installing cross drains for erosion control, placing water bars in the road, and filling ditches.
APM WR-3	Roads would be built as near as possible to right angles to the streams and washes <u>or as required by Project permits</u> . Culverts would be installed where necessary. All construction and maintenance activities shall be conducted in a manner that would minimize disturbance to vegetation, drainage channels, and intermittent or perennial stream banks. In addition, road construction would include dust-control measures during construction in sensitive areas. All existing roads would be left in a condition equal to or better than their condition prior to the construction of the solar farm.
APM WR-4	The Applicant would limit the panel washing to two washings per year during project operation. Should this estimate need to be revised one <u>once</u> the project is fully operational depending on soil/dust conditions, the Applicant would consult with the County and obtain the requisite approvals prior to any modifications to this schedule.

Based on the changes to the Approved Project and subsequent consultations with wildlife agencies and scientific experts described herein, the applicant has requested modifications to mitigation measures approved in the 2010 Final EIR. These mitigation measure revisions are also discussed in the appropriate environmental analysis sections within Section C.

B.11 PG&E Transmission System Upgrades

Since 2010, new information has become available regarding the transmission system upgrades that are necessary to serve the Revised Project. These upgrades are described below and analyzed in this Supplemental EIR.

The California Independent System Operator (CAISO), the electricity grid operator in California, in combination with the interconnecting utility, Pacific Gas & Electric Company (PG&E), are responsible for ensuring the reliability of the transmission grid. These two entities are tasked with determining the transmission system impacts of the proposed PVSP and any measures needed to ensure system conformance with utility reliability criteria.

An Interconnection Reassessment Study was conducted by CAISO (September 18, 2013) in coordination with PG&E in accordance with CAISO Tariff Appendix DD, Generator Interconnection and Deliverability Allocation Procedures. The study identified various utility network upgrades necessary to support interconnection of the project to the electrical grid, including, primary and secondary telecommunication services to allow for data transmission between the project and the electrical grid. This SEIR evaluates the potential impacts associated with the proposed telecommunications upgrades to PG&E's system.

The California Public Utilities Commission (CPUC) has exclusive permitting jurisdiction over upgrades and modifications to high-voltage and telecommunications facilities owned and operated. Accordingly, the potential environmental effects related to the PG&E network upgrades are described in this document to facilitate subsequent approvals required by CPUC.

B.11.1 PG&E Primary Telecommunications Service: Optical Ground Wire

PG&E proposes to install new optical ground wire (OPGW) on its existing Moss Landing–Panoche 230 kV transmission line to establish the primary telecommunication service between the project substation and PG&E’s existing Panoche Substation, which is located 17 miles east of the Panoche Valley in Fresno County. OPGW is designed to replace traditional shield wire, which protects the line by providing a path to ground, by handling electrical faults like shield wire with the added benefit of containing optical fibers which can be used for telecommunications purposes.

OPGW provides telecommunications services between electrical substations and generating facilities or other substations. The OPGW will replace existing shield wire and be installed on existing towers with minimal modification of the existing towers. Figure B-6 (PG&E Upgrades: OPGW) depicts the primary telecommunications route described herein.

B.11.1.1 OPGW Installation

As stated above, the OPGW will be installed on PG&E’s existing Moss Landing–Panoche 230 kV transmission line to establish the primary telecommunication service between the substation at the project site and Panoche Substation. As illustrated on Figure B-6, the segment of the PG&E Moss Landing–Panoche 230 kV line that would serve the PVSP would start at the existing Panoche Substation, which is located in Fresno County on West Panoche Road, about 2.5 miles east of Interstate 5. Of the 17-mile line, about 10 miles are in Fresno County and 7 miles in San Benito County and about 6 miles (in both Fresno and San Benito Counties) are on federal lands administered by the U.S. Bureau of Land Management (BLM).

The existing transmission line follows Panoche Road to the west for about 3.5 miles, then enters the Panoche Hills. About 9 miles of the route is within the Panoche Hills, on both private land and federal land. After crossing into San Benito County, the line is within the Panoche Hills for about 2.75 more miles, then entering the Panoche Valley. The existing line continues west for about 4.5 miles in the Panoche Valley before crossing Little Panoche Road and entering the proposed substation within the solar field boundary.

Crossing of BLM Land. East of the Panoche Valley and west of I-5, the PG&E Moss Landing–Panoche 230 kV transmission line traverses about 6 miles of Bureau of Land Management (BLM) administered land in the Panoche Hills. The line is located south of the Panoche Hills South Wilderness Study Area. Pull sites are anticipated to be needed within the BLM section of PG&E’s right-of-way (ROW). On BLM lands, the OPGW would be installed on existing structures using existing access roads or helicopters. PG&E anticipates impacts within BLM-administered land would include temporary disturbance associated with pull/reel and splice sites and would be limited to approximately 0.52 acres or 4 pull/splice sites.

B.11.1.2 Construction Process

Installation of OPGW

PG&E proposes to replace the existing shield wire and install the OPGW on the north side of the 230 kV towers, at the top of each tower. The OPGW cable comes on cable reels that hold approximately 23,000 feet of cable, so an estimated 12 temporary pull/reel and splice sites that would be established along the existing 17-mile transmission line corridor. Each splice and pull/reel sites would require an approximate 75-foot by 75-foot work area located mid-span of existing tower sites within the existing transmission corridor right-of-way.

The OPGW installation along the 17-mile segment would be completed in approximately 12-16 weeks, and at any one location the construction would take from 2 to 3 weeks. Existing roads and access along the transmission line will be used to install the OPGW, and PG&E will implement the same methods in the execution of the work that they employ when performing maintenance activities on their electrical system.

The locations of the pull/reel sites have been identified through a combination of helicopter and ground surveys and a review of aerial imagery. These locations are depicted on Figure B-6. The criteria used in selecting the final pull/reel sites include consideration of the following issues: accessibility for vehicles, presence of flat or nearly flat land adjacent to existing transmission line route for equipment set-up; existing land use, absence of or minimal habitat for sensitive species, and the absence of resources that would restrict work.

Preparation of the temporary pull/splice sites will require some minor ground disturbance. Minor structural modifications will also be made to each of the transmission towers to allow the mounting of splice boxes where the sections of OPGW will be spliced (every 3 to 5 miles). Access to pull/reel sites and to each transmission tower would occur generally along existing unimproved roads or improved unsurfaced or surfaced roads that lead to many of the existing towers. No new roads would be constructed to access tower locations. Helicopters would be used to place materials at the point of installation for towers inaccessible by road.

At each of the 75 existing towers along the 17-mile 230 kV transmission line route, minor upgrades to the steel attachments on the towers would be required to accommodate installation of the OPGW. These upgrades would include only overhead work on the existing tower, such as replacement of the gode peaks with a pulley to accommodate the OPGW. The existing static wire would then be used to pull the new OPGW through each tower pulley. Existing roads or helicopters would be used to provide access to the sites necessary to fashion the attachments needed on each tower.

Use of Helicopters

Helicopters would be used to transport electrical workers to the towers, deliver materials, and assist in pulling the OPGW from tower to tower. Approximately four 150 by 100-foot landing zones (LZs) would be constructed approximately every 5 miles using means similar to pull sites. Establishment of these landing zones will involve minimal temporary ground disturbance and will facilitate the use of helicopters and reduce overall impacts associated with the work. LZs will primarily be used for staging materials, picking up and transporting electrical personnel and equipment, and refueling helicopters. Helicopter landing zones are depicted in Figure B-6.

Temporary Guard Structures

Overhead crossings of public roadways or existing transmission or distribution lines would require the use of approximately 11 temporary guard structures at seven crossings. The temporary guard structures would be designed to prevent tools or materials from falling into the roadway or utility. Guard structures typically consist of 2 to 4 wooden poles and cross beams attached between the poles. They are generally installed in pairs with a net strung between them, but in some cases a net would not be required. A PG&E line truck would be used to auger and set the wooden poles. For roadway crossings, it is anticipated that the temporary poles would be placed in or adjacent to the disturbed road shoulder in an approximately 75-foot by 75-foot area. No grading or vegetation removal is anticipated associated with installation of the guard structures. Guard structure poles would be removed following OPGW installation and the holes backfilled. Guard structure locations are depicted on Figure B-6.

Crossing of 500 kV Lines

The existing 230 kV transmission line crosses under two existing 500 kV transmission lines about 1.5 miles west of the I-5 crossing. At this location, an approximately 4,650-foot section will require the installation of approximately nine permanent wood poles within the existing ROW and on land currently used for agricultural purposes. At this crossing, PG&E would splice in All-Dielectric Self-Supporting (ADSS) fiber optic cable from the 230 kV towers to the east and west sides of the 500 kV transmission line corridor and attach the ADSS to the nine new wood poles. The ADSS would replace of OPGW for this 4,650-foot section. The new poles would be located at a 30- to 40-foot offset to the existing 230 kV centerline and within the ROW. To install the poles, a 30-foot by 40-foot work area would be required to accommodate one crew truck and a trailer truck to bring each pole to the site, and a line truck to auger a hole about 8 feet deep and 2 feet wide.

Summary of Ground Disturbance

Table B-10 summarizes the total impact areas for the PG&E Upgrades.

Table B-10. Primary Telecommunications Impact Overview

Work Area Description	Total Impact
Temporary pull/splice sites (12 – 75'x 75')	1.54 acres
Temporary landing zones (4 – 150' x 100')	1.38 acres
Temporary guard structures (11 – 75' x 75')	1.42 acre
Wood pole temporary work areas (9 – 30' x 40')	0.25 acres
Wood pole permanent impact area	10 square feet
ADSS underground temporary work area (1200' x 37.5')	1.03 acres
Total	Approx. 5.62 acres

PG&E will implement avoidance and minimization measures for these sensitive species and their habitat as required by a State Incidental Take Permit (SITP) approved by CDFW and the project's Biological Opinion issued by the USFWS.

B.11.2 PG&E Secondary Telecommunication Service: Microwave System

To meet PG&E's communications reliability standards, two redundant communication paths are required. In addition to the OPGW installation on the existing 230 kV transmission line structures, PG&E proposes to establish a secondary system. PG&E's preferred secondary system would be a microwave communication system that would to achieve the same system protection. As indicated in Figure B-7 (PG&E Upgrades: Microwave Towers), the microwave path will start at the project switchyard, where a new microwave tower will be constructed. The path will continue to an existing microwave tower at Call Mountain (owned by CAL FIRE), then to Panoche Mountain where either a new tower will be constructed next to an existing tower owned by California Highway Patrol or co-located on an existed tower owned by American Tower Corporation (ATC). The microwave path will then terminate at a new tower to be constructed at PG&E's existing Helm Substation. The tower to be constructed at Panoche Mountain (if needed) could be up to 300 feet in height. The towers at the Helm Substation and the project switchyard will be approximately 100 feet tall. A schematic of a typical microwave communications tower is shown in Figure B-8 (Microwave Tower Design).

A Federal Aviation Administration (FAA) study will be performed, if required, prior to construction of the microwave towers to determine appropriate lighting to comply with FAA requirements or for aviation

safety. PG&E would comply with the Federal Communications Commission (FCC) approval process and FAA filings and approval, including installations of FAA lights on the microwave tower, as required.

B.11.2.1 Microwave Tower Construction

PVS Project Site Tower. The microwave tower constructed at the PVS substation would be approximately 100 feet tall and would be located adjacent to the two substations.

Call Mountain Tower. The existing tower owned by CAL FIRE will be used to collocate equipment needed to provide telecommunications from the project site to PG&E’s system. Since an existing tower will be used there would be no increase in visual impacts in the area. An existing road would be utilized to access the proposed Call Mountain tower site, so no new roads would be constructed to bring equipment and materials to the work site.

Panoche Mountain Tower. If equipment cannot be collocated on an existing tower near the site, a new tower of up to 300 feet tall may need to be constructed at Panoche Mountain; however, there are two nearby towers owned by CHP and American Tower Corporation (ATC). The new microwave tower (if needed) would be similar to existing infrastructure already located in the area and would not increase visual impacts in the area. Figure B-9 is a photograph of the existing tower at Panoche Mountain (Central Office, 2014).



Figure B 9. Panoche Mountain Existing Microwave Tower

Helm Substation Tower. The tower to be constructed at Helm Substation will be approximately 100 feet tall and located within the existing substation fenceline.

Summary of Ground Disturbance

Table B-11 summarizes the total impact areas for PG&E’s secondary telecommunications system.

Table B-11. Secondary Telecommunications Impact Overview

Work Area Description	Total Impact
Microwave site permanent work area for new towers (3 – 100’ x 100’)	0.69 acres
Microwave site temporary work area for existing tower (1 – 100’ x 100’)	0.23 acres
Total	Approx. 0.92 acres

B.11.3 Avoidance and Minimization Measures for PG&E Telecommunications Activities

Table B-12 presents the Avoidance and Minimization Measures (AMMs) to which PG&E has committed. Implementation of these measures will ensure that impacts of the telecommunications upgrades will be less than significant. The effectiveness of the measures is evaluated in Section C of this Supplemental EIR.

PG&E proposes to use avoidance and minimization measures during performance of construction activities associated with the Revised Project equivalent to those for covered species in the San Joaquin Valley Habitat Conservation Plan (SJVHCP). Specifically, measures to avoid and minimize impacts to sensitive species and their habitat include AMMs BIO-1, BIO-2, and BIO-3.

PG&E considers that these AMMs would be implemented where practicable, physically possible, and not conflicting with other regulatory obligations or safety considerations; work activities will be prohibited or greatly restricted within restricted activity zones. However, vehicle operation on existing roads and foot travel will be permitted. A qualified biologist will monitor the work activities near flagged exclusion and restricted activity zones. Within 60 days after work activities have been completed at a given work-site, all staking and flagging will be removed.

Table B-12. PG&E Avoidance & Minimization Measures (AMMs)

AMM Number	Measure by Issue Area
Aesthetics	
AMM AES-1	Treat structure surfaces. "Dulled" metal finish structures will be used to reduce visual impacts on new microwave towers and steel transmission structures.
Air Quality	
AMM AQ-1	<p>Minimize fugitive dust. Consistent with the applicable Air Quality Management District's CEQA Guidelines, PG&E will minimize dust emissions during construction by implementing the following measures:</p> <ul style="list-style-type: none"> ▪ Water all active construction areas at least twice daily. ▪ Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard. ▪ Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. ▪ Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites. ▪ Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. ▪ Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person will respond and take corrective action within 48 hours. The applicable Air Quality Management Districts' phone numbers will also be visible to ensure compliance with applicable regulations. <p>Note that implementation of the first measure listed above would not apply to paved areas with no exposed soil or when rains are occurring.</p>
AMM AQ-2	Limit equipment idling. Limit idling times on trucks and equipment used during construction.
Biological Resources	
AMM BR-PGE-1	Worker Environmental Training. Personnel will receive ongoing environmental education. Training will include review of environmental laws and guidelines that must be followed by all personnel to reduce or avoid effects on covered species during work activities.
AMM BR-PGE-2	Park vehicles and equipment in disturbed areas. Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable.
AMM BR-PGE-3	Work during daylight hours. Work will occur only during daylight hours, unless required to occur at night by permit or ordinance.
AMM BR-PGE-4	Minimize disturbance from vehicle access. The development of new access and ROW roads will be minimized, and clearing vegetation and blading for temporary vehicle access will be avoided to the extent practicable.
AMM BR-PGE-5	Speed limit. Vehicles will not exceed a speed limit of 15 mph in the ROWs or on unpaved roads within sensitive land-cover types.

Table B-12. PG&E Avoidance & Minimization Measures (AMMs)

AMM Number	Measure by Issue Area
AMM BR-PGE-6	Trash dumping, firearms, open fires, hunting, and pets will be prohibited at the work activity sites.
AMM BR-PGE-7	Fire prevention. During fire season in designated State Responsibility Areas (SRAs), all motorized equipment will have federal or state approved spark arrestors; a backpack pump filled with water and a shovel will be carried on all vehicles; and fire-resistant mats and/or windscreens will be used when welding.
AMM BR-PGE-8	Fire prevention during “red flag” conditions. In addition, during fire “red flag” conditions as determined by California Department of Forestry (CDF), welding will be curtailed, each fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C, and all equipment parking and storage areas will be cleared of all flammable materials.
AMM BR-PGE-9	Restoration and erosion control. Upon completion of any Project component, all areas that are significantly disturbed and not necessary for future operations, shall be stabilized to resist erosion, and re-vegetated and re-contoured if necessary, to promote restoration of the area to pre-disturbance conditions.
AMM BR-PGE-10	Special-status amphibians and reptiles. If suitable habitat for listed amphibians and reptiles is present, and protocol-level surveys have not been conducted, a qualified biologist will conduct preconstruction surveys prior to activities involving excavation. If necessary, barrier fencing will be constructed around the worksite to prevent reentry by the covered amphibians and reptiles. A qualified biologist will stake and flag an appropriate exclusion zone around the potentially occupied habitat. No monofilament plastic will be used for erosion control in the vicinity of listed amphibians and reptiles. Barrier fencing will be removed upon completion of work. Crews will also inspect trenches left open for more than 24 hours for trapped amphibians and reptiles. A qualified biologist will be contacted before trapped amphibians or reptiles (excluding blunt nosed leopard lizard and limestone salamander-which will not be handled) are moved to nearby suitable habitat.
AMM BR-PGE-11	Avoid giant kangaroo rat and San Joaquin antelope squirrel. Personnel shall avoid occupied or potentially occupied burrows identified by a qualified biologist within two core-areas for San Joaquin antelope squirrel and giant kangaroo rat identified by CDFW. If occupied or potentially occupied burrows in the core areas cannot be avoided, a qualified biologist shall stake and flag an appropriate work-exclusion zone and remain on-sight as a biological monitor, or the biologist shall stake and flag an appropriate work exclusion zone around active burrows prior to covered activities at the job site. If work must proceed in the exclusion zone, crews will pursue techniques to minimize direct mortality including using approved biologists to trap and hold the species in captivity, and excavating and closing burrows. The approved biologist will hold an ESA Section 10(a)(1)(A) permit for the species. The approved biologist will release the mammals as soon as possible when the work is complete. If active (occupied or potentially occupied) burrows for San Joaquin antelope squirrel or giant or Tipton kangaroo rat are present outside the two core areas identified by CDFW, a qualified biologist will stake and flag an appropriate exclusion zone and remain on-site as a biological monitor, or the biologist shall stake and flag an appropriate work exclusion zone around the burrows prior to work activities on the job site.
AMM BR-PGE-12	Avoid San Joaquin kit fox and American badger dens if possible. If San Joaquin kit fox or American badger dens are present, their disturbance and destruction will be avoided where possible. However, if dens are located within the proposed work area and cannot be avoided during construction, qualified biologists will determine if the dens are occupied. If unoccupied, the qualified biologist will remove these dens by hand excavating them in accordance with USFWS procedures for kit fox (USFWS, 1999), which can also be applied to badger dens. Exclusion zones for kit fox will be implemented following USFWS procedures (USFWS, 1999) or the latest USFWS procedures. The radius of these zones will follow current standards or will be determined on a case-by-case basis in coordination with USFWS and CDFW. If badger dens are present, occupied badger dens shall be flagged and ground-disturbing activities avoided within 50 feet of the occupied den. Maternity dens shall be avoided during pup-rearing season (15 February through 1 July) and a minimum 200-foot buffer established.
AMM BR-PGE-13	Exclusion zones for blunt-nosed leopard lizard. If activities take place within the range of the species and outside the road shoulder, a qualified biologist will identify if burrows are present and if work can avoid burrows. If work cannot avoid the burrows, a qualified biologist will evaluate the site for occupancy and stake and flag an appropriate exclusion zone around the burrows prior to activities at the job site.

Table B-12. PG&E Avoidance & Minimization Measures (AMMs)

AMM Number	Measure by Issue Area
AMM BR-PGE-14	<p>Report dead or injured listed species. Personnel will be required to report any accidental death or injury of a listed species or the finding of any dead or injured listed species to a qualified Biologist. Notification of CDFW and/or USFWS of any accidental death or injury of a listed species shall be done in accordance with standard reporting procedures.</p>
AMM BR-PGE-15	<p>Exclusion zones for special-status plants. If a covered plant species is present following special-status plant surveys, a qualified biologist will stake and flag exclusion zones of 100 feet around plant occupied habitat (both the standing individuals and the seed bank individuals) of the covered species prior to performing the activities. If an exclusion zone cannot extend the specified distance from the habitat, the biologist will stake and flag a restricted activity zone of the maximum practicable distance from the exclusion zone around the habitat. This exclusion zone distance is a guideline that may be modified by a qualified biologist, based on site-specific conditions (including habituation by the species to background disturbance levels).</p>
AMM BR-PGE-16	<p>Conduct preconstruction surveys for active Swainson's hawk nests and implement avoidance measures if necessary. If construction activities are anticipated to occur during the nesting season for Swainson's hawks (generally March through July), PG&E will retain a qualified wildlife biologist to conduct preconstruction surveys within 0.50 miles of construction activities that occur within or near suitable breeding habitat for nesting Swainson's hawks. The biologist will also consult with CDFW and species experts to determine if there are any known active Swainson's hawk nests or traditional territories within 0.50 miles of the work areas. If no active Swainson's hawk nests are detected, a report documenting survey methods and findings will be submitted to CDFW, and no further mitigation is required.</p> <p>If an active Swainson's hawk nest occurs within 0.50 miles of a planned work area, a 0.50-mile restricted activity buffer will be established around the nest. Biologists will monitor the nest and coordinate with local CDFW representatives to designate nest-specific areas of avoidance and restricted activities based upon the location of the nest relative to project activities and the type and duration of construction activities planned during the nesting season.</p>
AMM BR-PGE-17	<p>Conduct preconstruction surveys and avoidance of active western burrowing owl burrows. CDFW (2012) recommends that preconstruction surveys be conducted at all work areas (except paved areas) in project study areas and in a 250-foot-wide buffer zone around the work areas to locate active burrowing owl burrows. PG&E will retain a qualified biologist to conduct preconstruction surveys for active burrows no more than 30 days prior to the start of construction according to the CDFW guidelines. If no burrowing owls are detected, a letter report documenting survey methods and findings will be submitted to CDFW, and no further mitigation is required.</p>
AMM BR-PGE-17 cont.	<p>If western burrowing owls are present at the site, a qualified biologist will work with O&M staff to determine whether an exclusion zone of 160 feet during the non-nesting season and 250 feet during the nesting season can be established. If it cannot, an experienced burrowing owl biologist will develop a site-specific plan (i.e., a plan that considers the type and extent of the proposed activity, the duration and timing of the activity, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the owls. If a biologist experienced with burrowing owl determines the relocation of owls is necessary, a passive relocation effort may be conducted as described below, in coordination with CDFW as appropriate. During the nonbreeding season (generally 1 September–31 January), a qualified biologist may passively relocate burrowing owls found within construction areas. Prior to passively relocating burrowing owls, a Burrowing Owl Exclusion Plan shall be prepared by a qualified biologist in accordance with Appendix E of the Staff Report on Burrowing Owl Mitigation (CDFW, 2012). The Burrowing Owl Exclusion Plan shall be submitted to the CDFW for review and to the County for approval prior to implementation.</p>
AMM BR-PGE-17 cont.	<p>The biologist shall accomplish such relocations using one-way burrow doors installed and left in place for at least two nights; owls exiting their burrows will not be able to re-enter. Then, immediately before the start of construction activities, the biologists shall remove all doors and excavate the burrows to ensure that no animals are present the burrow. The excavated burrows shall then be backfilled. To prevent evicted owls from occupying other burrows in the impact area, the biologist shall, before eviction occurs, (1) install one-way doors and backfill all potentially suitable burrows within the impact area, and (2) install one-way doors in all suitable burrows located within approximately 50 feet of the active burrow, then remove them once the displaced owls have settled elsewhere. When temporary or permanent burrow-exclusion methods are implemented, the following steps shall be taken:</p>

Table B-12. PG&E Avoidance & Minimization Measures (AMMs)

AMM Number	Measure by Issue Area
AMM BR-PGE-17 cont.	<p>Prior to excavation, a qualified biologist shall verify that evicted owls have access to multiple, unoccupied, alternative burrows, located nearby (within 250 feet) and outside of the projected disturbance zone. If no suitable alternative natural burrows are available for the owls, then, for each owl that is evicted, at least two artificial burrows shall be installed in suitable nearby habitat areas. Installation of any required artificial burrows preferably shall occur at least two to three weeks before the relevant evictions occur, to give the owls time to become familiar with the new burrow locations before being evicted. The artificial burrow design and installation shall be described in the Burrowing Owl Exclusion Plan per Appendix E of the <i>Staff Report on Burrowing Owl Mitigation</i> (CDFW, 2012).</p> <p>Passive relocation of burrowing owls shall be limited in areas adjacent to Project activities that have a sustained or low-level disturbance regime; this approach shall allow burrowing owls that are tolerant of Project activities to occupy quality, suitable nesting and refuge burrows. The use of passive relocation techniques in a given area shall be determined by a qualified biologist who may consult with CDFW, and shall depend on existing and future conditions (e.g., time of year, vegetation/topographic screening, and disturbance regimes).</p>
AMM BR-PGE-18	<p>Wetland and Other Waters Avoidance and Minimization. Impacts to wetlands and other waters shall be avoided to the extent feasible. The Project shall be designed, constructed and operated to avoid and minimize impacts to wetlands and other waters to the extent feasible. General Project staging and laydown activities shall not occur within wetlands during construction. To avoid unnecessary egress into waterways and wetlands, all wetlands and waters in the Project impact area shall be clearly marked with highly visible flagging, rope, or similar materials in the field. Access allowed within these features for the purposes of construction in and near such features (e.g., road crossings) shall be clearly delimited, and be staked in the field, to prevent construction personnel from causing impacts to areas outside of work limits. Where necessary, silt fencing or other measures may be used to protect adjacent wetlands and waterways from sediment transport or other indirect impacts that could result from adjacent construction. Wetlands and other waters within construction areas that are to be avoided shall be fenced or flagged for avoidance prior to construction, and a biological monitor shall be present to ensure compliance with off-limits areas. Additionally, the following measures are proposed to further minimize project impacts on wetland and other waters during construction activities:</p> <ul style="list-style-type: none"> • Grading and construction activities should be done during dry conditions. However, if grading and construction must be conducted during wet conditions, then the site specific best management practices (BMPs) for erosion will be implemented. • All work within waters that have only low or intermittent flow shall be performed when the channel is dry or at its lowest flow. Work within channels with perennial flow shall be performed during times when there is no flow to the extent practical. • Activities near wetland and waters that have the potential to degrade water quality will be conducted during the dry season. If work activities are necessary during the rainy season, they shall be conducted during dry spells between rain events. • All drainage patterns and grades will be returned to preconstruction conditions • Unanticipated temporary impacts to wetlands and other waters shall be mitigated through onsite restoration, if impacts are restored within a single year, with most restoration expected to occur at the onset of the rainy season to enhance germination success (i.e., areas impacted in a given year must be restored prior to 1 March of the following year to be considered temporary and require no additional mitigation). Areas of construction access-related temporary impacts that cannot be restored prior to 1 March the following year and would remain exposed during the dry season shall be restored the following fall. Compensatory mitigation for temporarily impacted areas that are not restored within a year shall be provided at a ratio acceptable to the agency(ies) with jurisdiction over that wetland or water feature.

Table B-12. PG&E Avoidance & Minimization Measures (AMMs)

AMM Number	Measure by Issue Area
Cultural Resources	
AMM CR-1	<p>Pre-construction worker cultural resources training. Prior to construction, PG&E will design and implement a Worker Cultural Resources Training Program for all project personnel who may encounter and/or alter historical resources or unique archaeological properties. Construction supervisors, workers, and other field personnel will be required to attend the training program prior to their involvement in field operations. The program will be conducted in conjunction with other environmental awareness training and education for the project. The cultural resources training session will be led by a qualified instructor meeting the Secretary of Interior's Professional Qualification Standards as listed beginning on page 44716 of Volume 48 of the Federal Register and as may be updated by the National Park Service.</p> <p>This Program will minimally include:</p> <ul style="list-style-type: none"> • A review of the environmental setting (prehistory, ethnography, history) associated with the project; • A review of Native American cultural concerns and recommendations during project implementation; • A review of applicable federal, state, and local laws and ordinances governing cultural resources and historic preservation; • A review of what constitutes prehistoric or historical archaeological deposits and what the workers should look out for; • A discussion of site avoidance requirements and procedures to be followed in the event unanticipated cultural resources are discovered during construction; • A discussion of procedures to follow in the event human remains are discovered during construction; • A discussion of disciplinary and other actions that could be taken against persons violating historic preservation laws and PG&E policies; and • A statement by the construction company or applicable employer agreeing to abide by the program conditions, PG&E policies, and applicable laws and regulations.
AMM CR-2	<p>Cultural resource avoidance. There are no known archaeological or historical resources within the direct impact areas defined for the PG&E Upgrades. In keeping with the intent of the NHPA and CEQA, PG&E's preferred approach for archaeological resources and historical resources is avoidance of impacts to significant (or unevaluated) resources. Where avoidance is not feasible, potential impacts to significant cultural resources must be treated in a way that is acceptable to PG&E, the State Historic Preservation Officer (SHPO), and if applicable, the local Native American community. Treatment might include data recovery excavations, public interpretation/education, or other measures. If there is an unanticipated discovery of a buried archaeological deposit or human remains, PG&E will implement AMM CR-4, and -5.</p>
AMM CR-3	<p>Cultural construction monitoring. A professional archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards will monitor all project-related excavation that is within an area of moderate to high sensitivity for prehistoric or historical buried resources. This shall include monitoring areas within 167 feet (50 meters) of recorded or previously identified prehistoric and historical-era sites or features, AMM CUL-3 will be guided by an Archaeological Monitoring and Inadvertent Discovery Plan, which will include the framework for evaluation and treatment of any unanticipated discoveries described in AMM CR-4.</p>
AMM CR-4	<p>Unanticipated discoveries of cultural resources. In the event that previously unidentified archaeological, cultural, or historical sites, artifacts, or features are uncovered during implementation of the project, work will be suspended within 100 feet (30 meters) of the find and redirected to another location. PG&E's cultural resources specialist or designated representative will be contacted immediately to examine the discovery and determine if additional work is needed. If the discovery can be avoided or protected and no further impacts will occur, the resource will be documented on California Department of Parks and Recreation 523 forms and no further effort will be required.</p> <p>If the resource cannot be avoided and may be subjected to further impacts, PG&E or their representative will evaluate the significance of the discovery following federal and state laws and implement data recovery or other appropriate treatment measures if warranted. Evaluation of historical-period resources will be done by a qualified historical archaeologist while evaluation of prehistoric resources will be done by a qualified archaeologist specializing in California prehistoric archaeology. Evaluations may include archival research, oral interviews, and/or field excavations to determine the full depth, extent, nature, and integrity of the deposit.</p>

Table B-12. PG&E Avoidance & Minimization Measures (AMMs)

AMM Number	Measure by Issue Area
AMM CR-5	Unanticipated discovery of human remains. If human remains or suspected human remains are discovered during construction, work within 100 feet of the find will stop immediately and the construction foreman shall contact the PG&E cultural resources specialist, who will then call the San Benito or Fresno County Coroner, as appropriate. There shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains, until coroner has determined that the remains are not subject to provisions of Section 27491 of the Government Code. If the coroner determines the remains to be Native American, he/she shall contact the NAHC within 24 hours. The NAHC will appoint a Most Likely Descendent for recommendations on the treatment and disposition of the remains (Health and Safety Code Sect. 7050.5, Public Resources Code Sect. 5097.24).
Hazards	
AMM HAZ-1	Proper storage and disposal of waste and hazardous materials. Hazardous materials shall not be drained onto the ground or into streams or drainage areas. Totally enclosed containment shall be provided for all trash, as well as recyclable materials. All construction waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, shall be removed to a disposal facility authorized to accept such materials.
AMM HAZ-2	Curtail work during red flag conditions. During fire "red flag" conditions as determined by California Department of Forestry (CDF), welding will be curtailed, each fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C, and all equipment parking and storage areas will be cleared of all flammable materials.
AMM HAZ-3	Fire season preparedness. During fire season in designated State Responsibility Areas (SRAs), all motorized equipment will have federal or state approved spark arrestors; a backpack pump filled with water and a shovel will be carried on all vehicles; and fire-resistant mats and/or windscreens will be used when welding.
AMM HAZ-4	Reduce Risk for Valley Fever. Implement the following measures to reduce the likelihood that construction workers and the public are infected with Valley Fever: <ul style="list-style-type: none"> ▪ Provide to all workers a detailed informational brochure explaining Valley Fever, its cause, and its symptoms, and the populations most at risk for the disease. The brochure shall incorporate information provided the California Department of Public Health (http://www.cdph.ca.gov/healthinfo/discond/Pages/Coccidioidomycosis.aspx) and shall be reviewed by a DPH for adequacy before the start of construction. ▪ If working in dusty environments, make breathing protection gear available to all workers, at their request and at no cost to workers. ▪ As part of a Safe Worker Environmental Awareness Program, educate workers to recognize the symptoms of Valley Fever, and to promptly report suspected symptoms of work-related Valley Fever to a supervisor.
Transportation and Circulation	
AMM TR-1	Develop and Implement Traffic Control Plan. The PG&E Traffic Control Plan shall include the following: <ul style="list-style-type: none"> ▪ Demonstration of compliance with the California Joint Utility Traffic Control Manual; ▪ The dates of any planned road closures (full or partial); ▪ A plan for providing public notice of anticipated road closures and traffic delays; and ▪ Measures to ensure that no traffic delays exceed 30 minutes (e.g., using flaggers and signage, timing road closures to minimize impacts on traffic).

Table B-12. PG&E Avoidance & Minimization Measures (AMMs)

AMM Number Measure by Issue Area

Water Resources

AMM WR-1 **Hazardous material spill prevention and response plan.** PG&E will implement construction controls, training and communication to minimize the potential exposure of the public and site workers to potential hazardous materials during all phases of project construction.

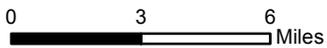
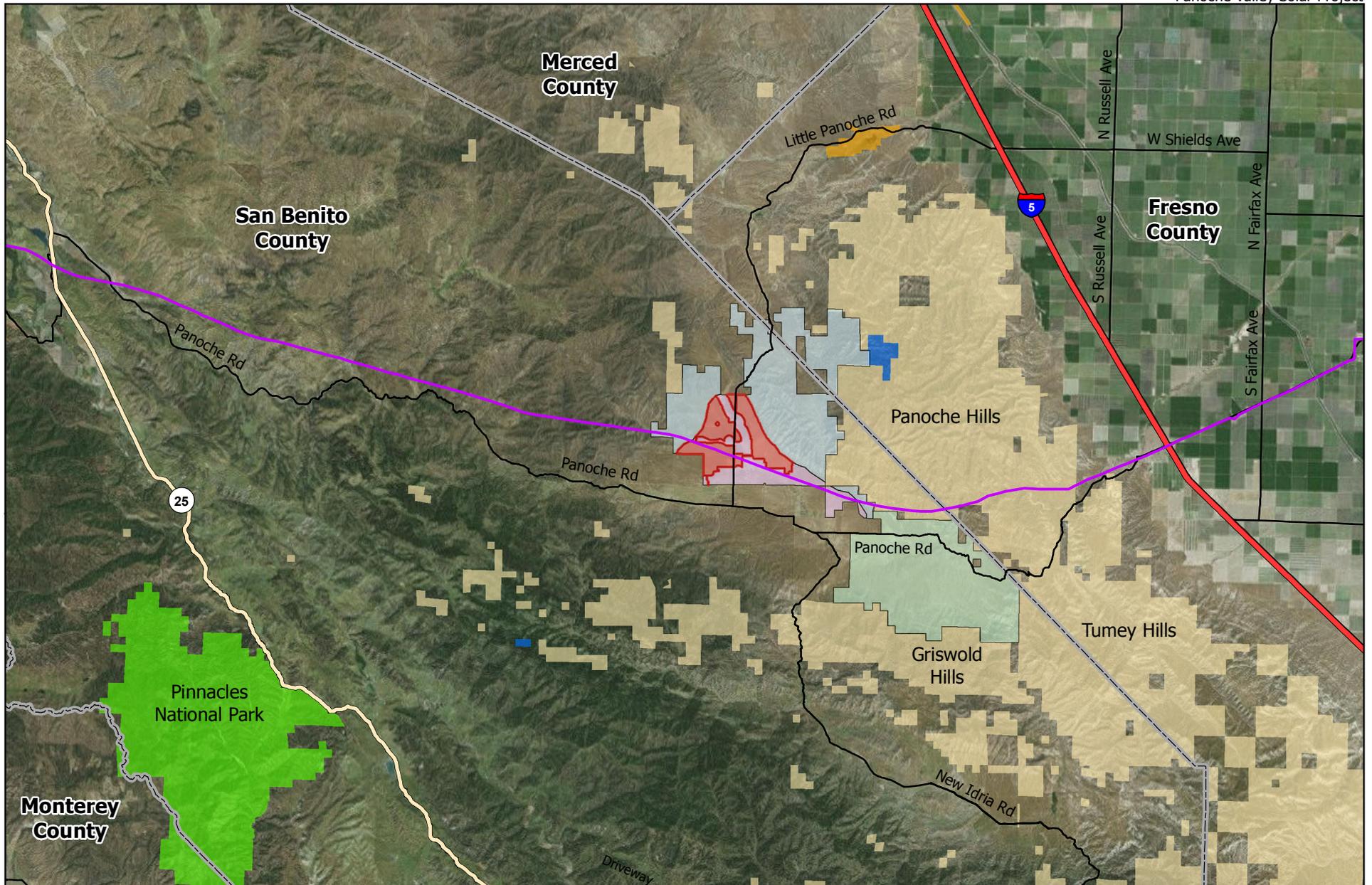
These construction practices include construction worker training appropriate to the site worker's role, containment and spill control practices in accordance with the SWPPP, and emergency response to ensure appropriate cleanup of accidental spills. If it is necessary to store chemicals, they will be managed in accordance with all applicable regulations. Material safety data sheets will be maintained and kept available on site, as applicable. The project SWPPP will identify areas where refueling and vehicle-maintenance activities and storage of hazardous materials, if any, will be permitted. All vehicles and equipment, including all hydraulic hoses, shall be maintained in good working order so that they are free of any and all leaks that could escape the vehicle or contact the ground. A monitoring program shall be implemented to ensure that the plans are followed during all construction, operations, and maintenance activities.

B.12 References

USEPA (United States Environmental Protection Agency). 2009. Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices. September.

Central Office. 2014. AG&T Long Lines, Microwave Tower Sites. <http://www.thecentraloffice.com/microwave/nmw/NCMW2.htm>. Accessed November 2014.

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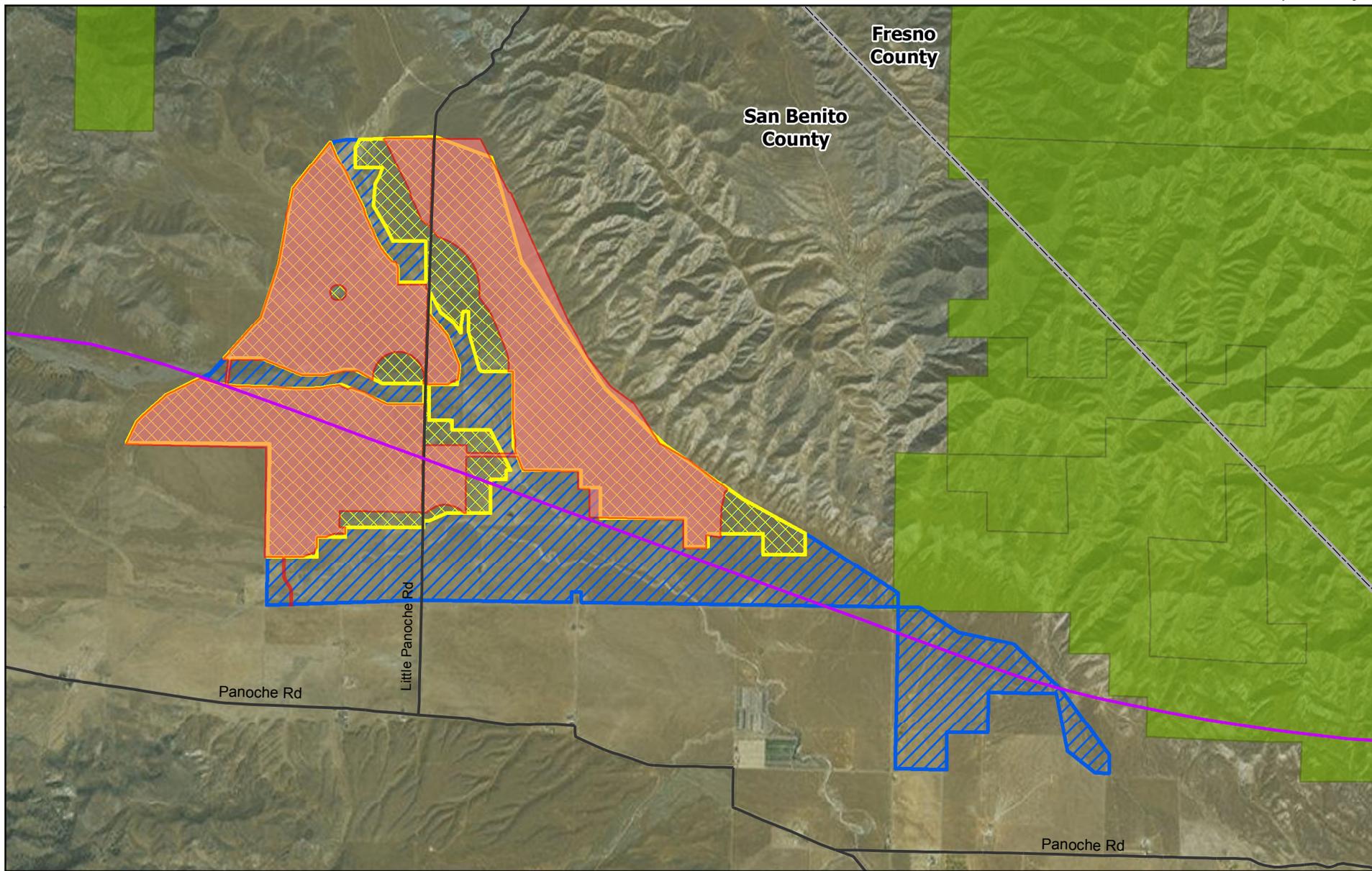


Source: PVS LLC, Platts 2013, ESRI

- | | | |
|----------------------------|---------------------------------------|---------------------------|
| Existing Transmission Line | Revised Project Area | Bureau of Land Management |
| Interstate | Valley Floor Conservation Lands | Bureau of Reclamation |
| State Route | Valadeao Ranch Conservation Lands | National Park Service |
| Local Road | Silver Creek Ranch Conservation Lands | State Lands |
| County Boundary | | |

Figure B-1

Project Location

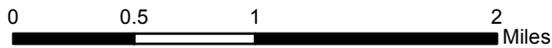
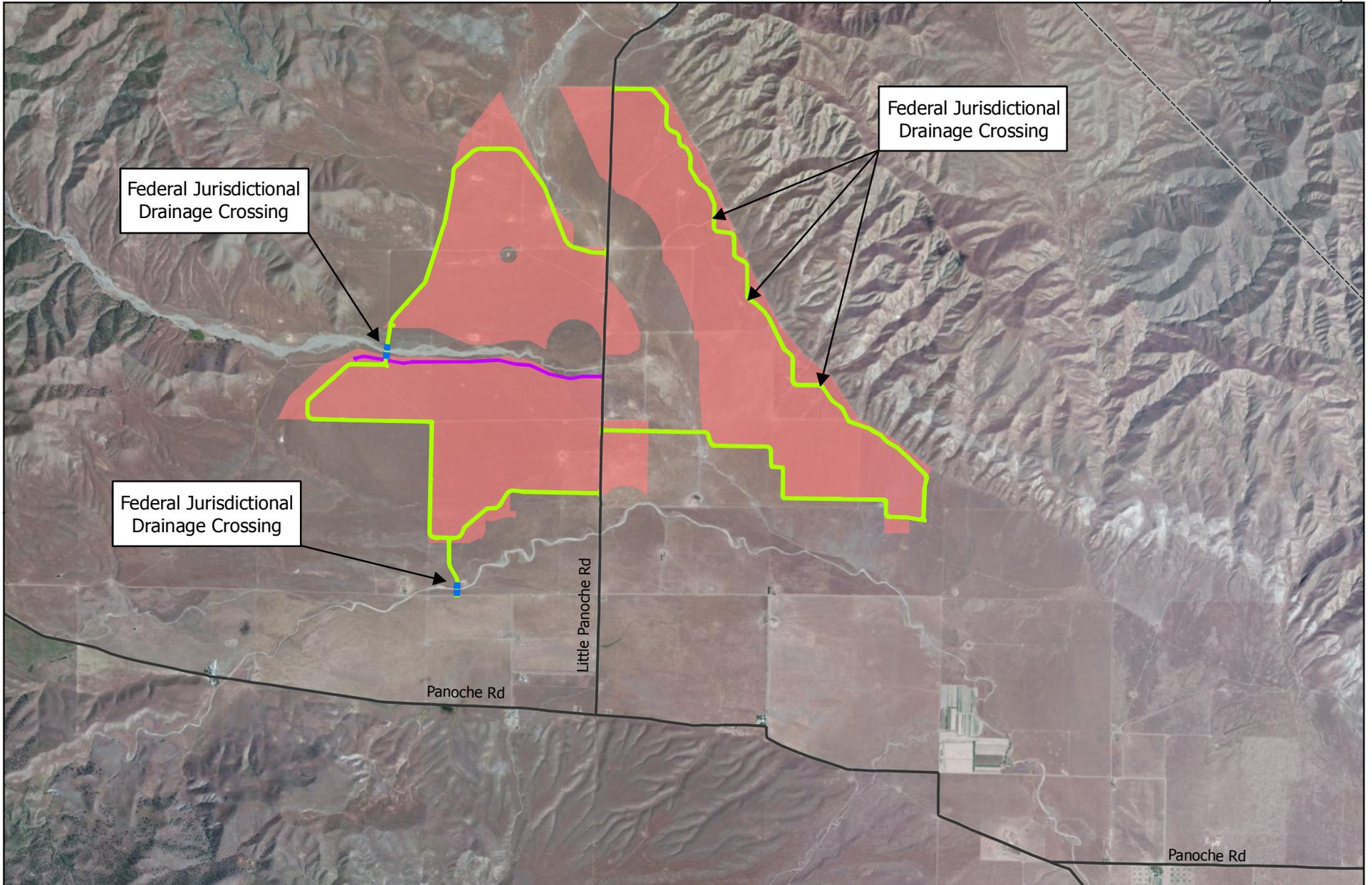


Source: BLM, PVS LLC, Platts 2013, ESRI

- 2014 Revised Project Boundary
- Approved Project Boundary (Alternative A Revised)
- 2010 Proposed Project Boundary
- Bureau of Land Management
- County Boundary
- Moss Landing - Panoche 230 kV Transmission Line

Figure B-2

Revised Project Boundaries



Source: PVS LLC, ESRI

— Existing Roads

— Perimeter Access Road

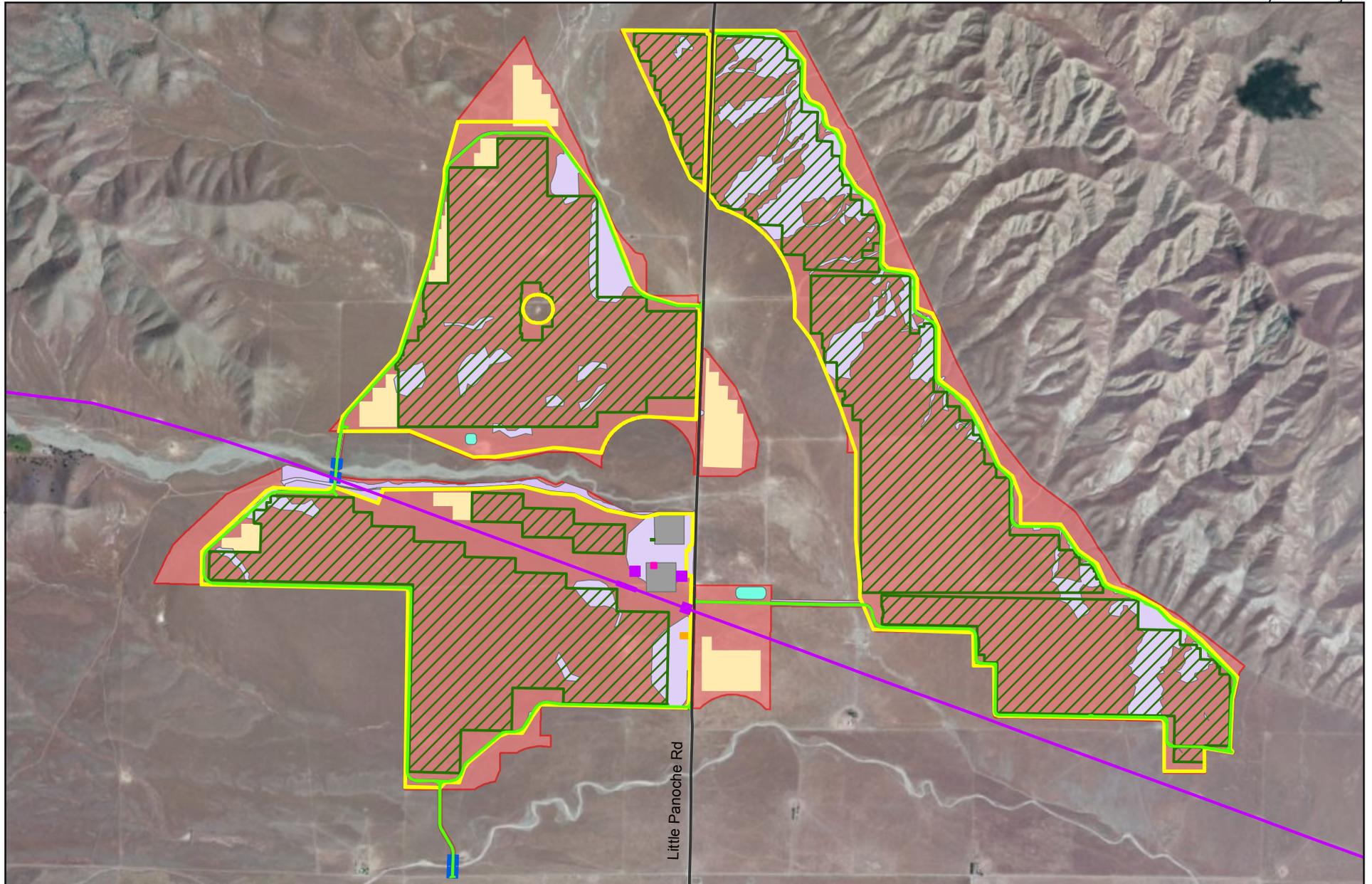
— New Vasquez Creek Road

■ Revised Project Area

■ New Bridge Disturbance

Figure B-3

Project Roads

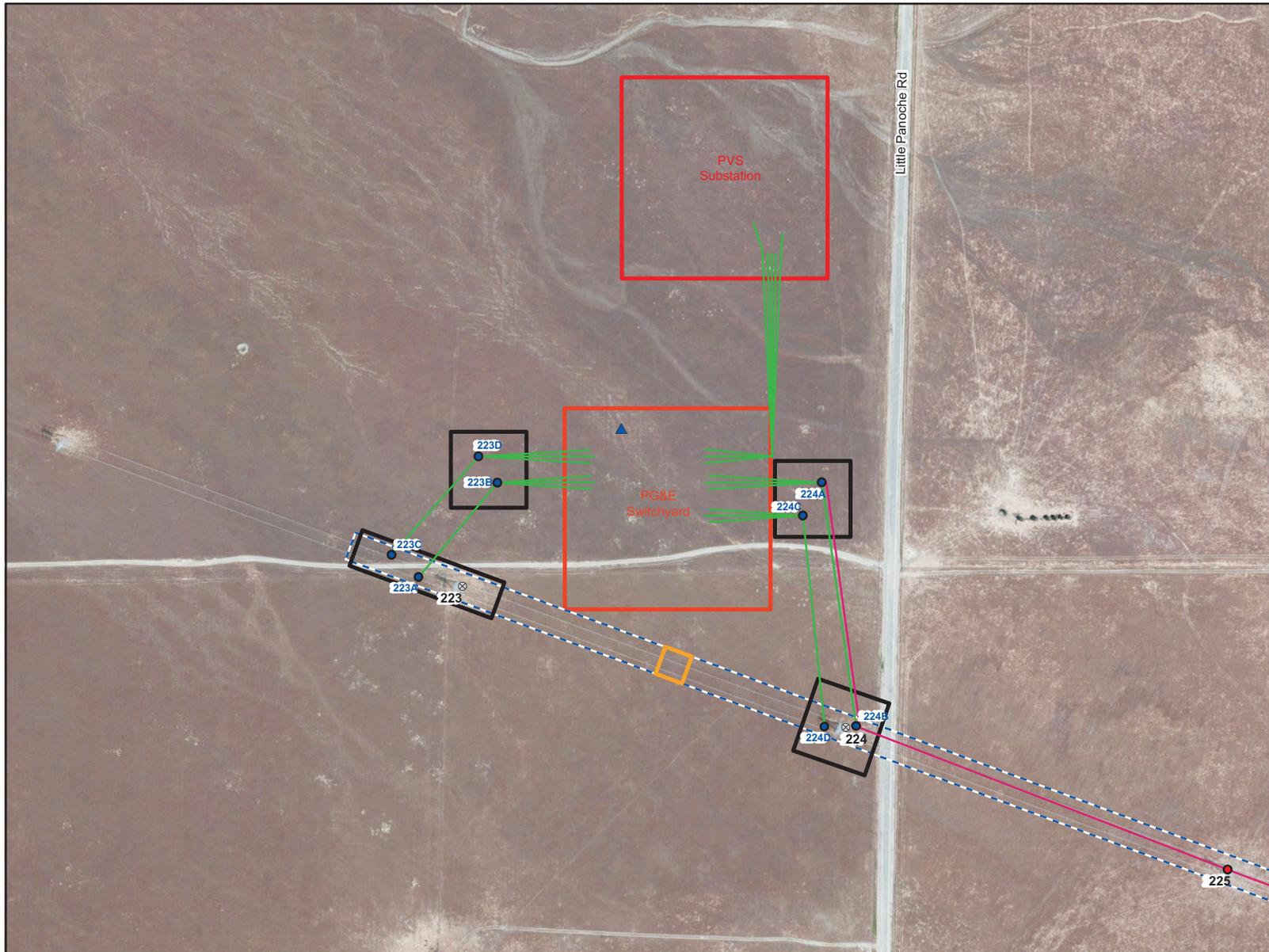


Source: PVS LLC, Platts 2013, ESRI

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|--------------------------|-------------------------|-----------------------------|
| 230 kV Transmission Line | Perimeter Fence | Microwave Tower Site |
| Little Panoche Road | Perimeter Road | TSP Work Areas |
| PV Panel Block | Laydown Yard | O&M Building |
| Grading Area | Helipad | Stream Crossing Disturbance |
| Revised Project Area | Substation & Switchyard | Temporary Water Pond |

Figure B-4

Temporary and Permanent
Ground Disturbance



LEGEND

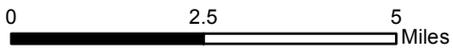
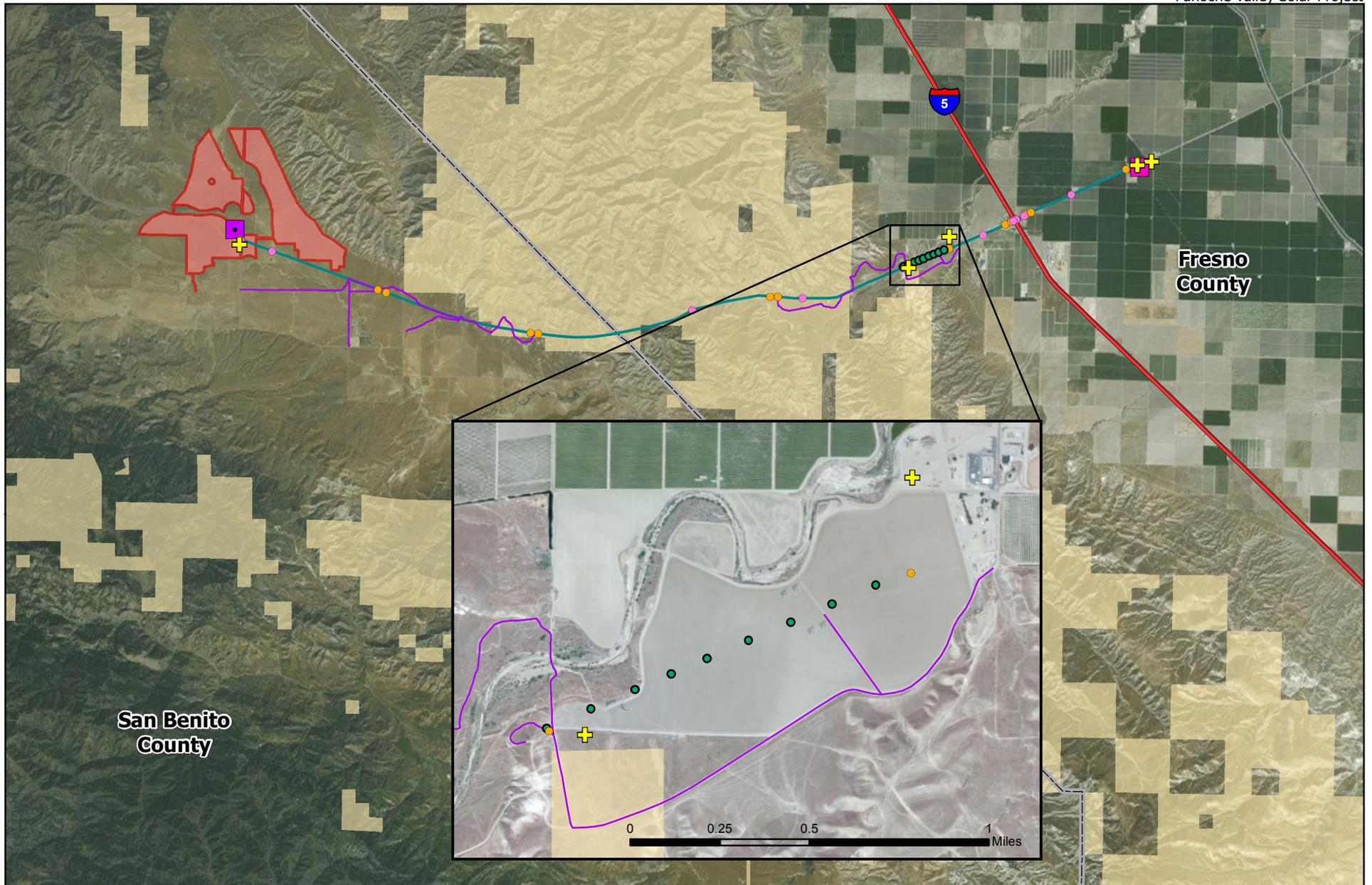
- Existing Structure
- ⊗ Existing Structure to be Removed
- New Gen-Tie TSP
- ▲ Microwave Tower Site
- Gen-Tie Loop In
- OPGW
- PVS Substation
- PG&E Switchyard
- Wire Pull Site
- WorkAreas
- - - ROW



Source: PVS, 2014.

Figure B-5

Interconnection Facilities

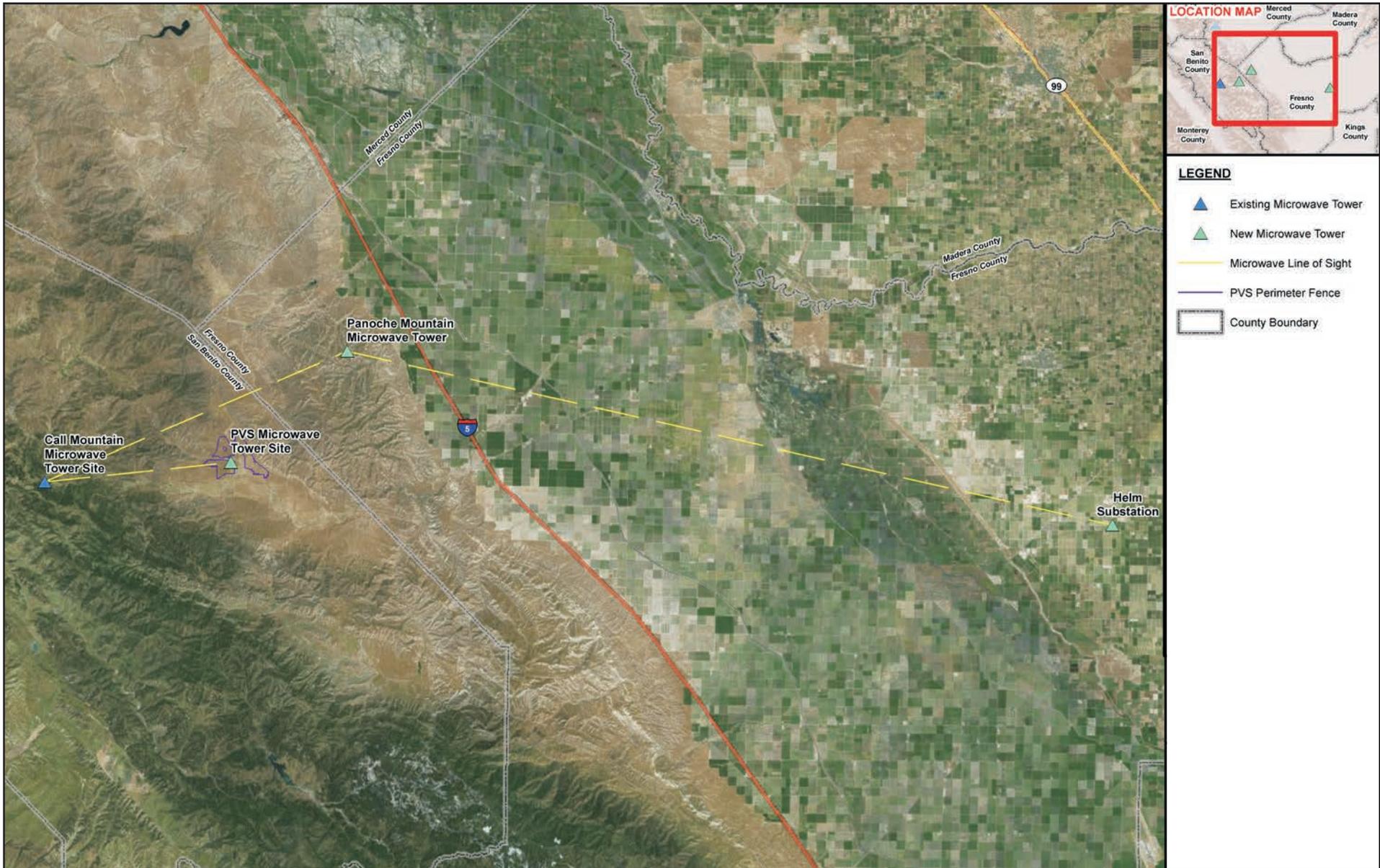


Source: PVS LLC, ESRI

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|-----------------|-------------------------|---------------------------|
| OPGW | New Wood Poles | Existing Substation |
| Access Roads | Wire Pull Site | Proposed Substation |
| Interstate | Guard Structure Site | Revised Project Area |
| County Boundary | Helicopter Landing Site | Bureau of Land Management |

Figure B-6

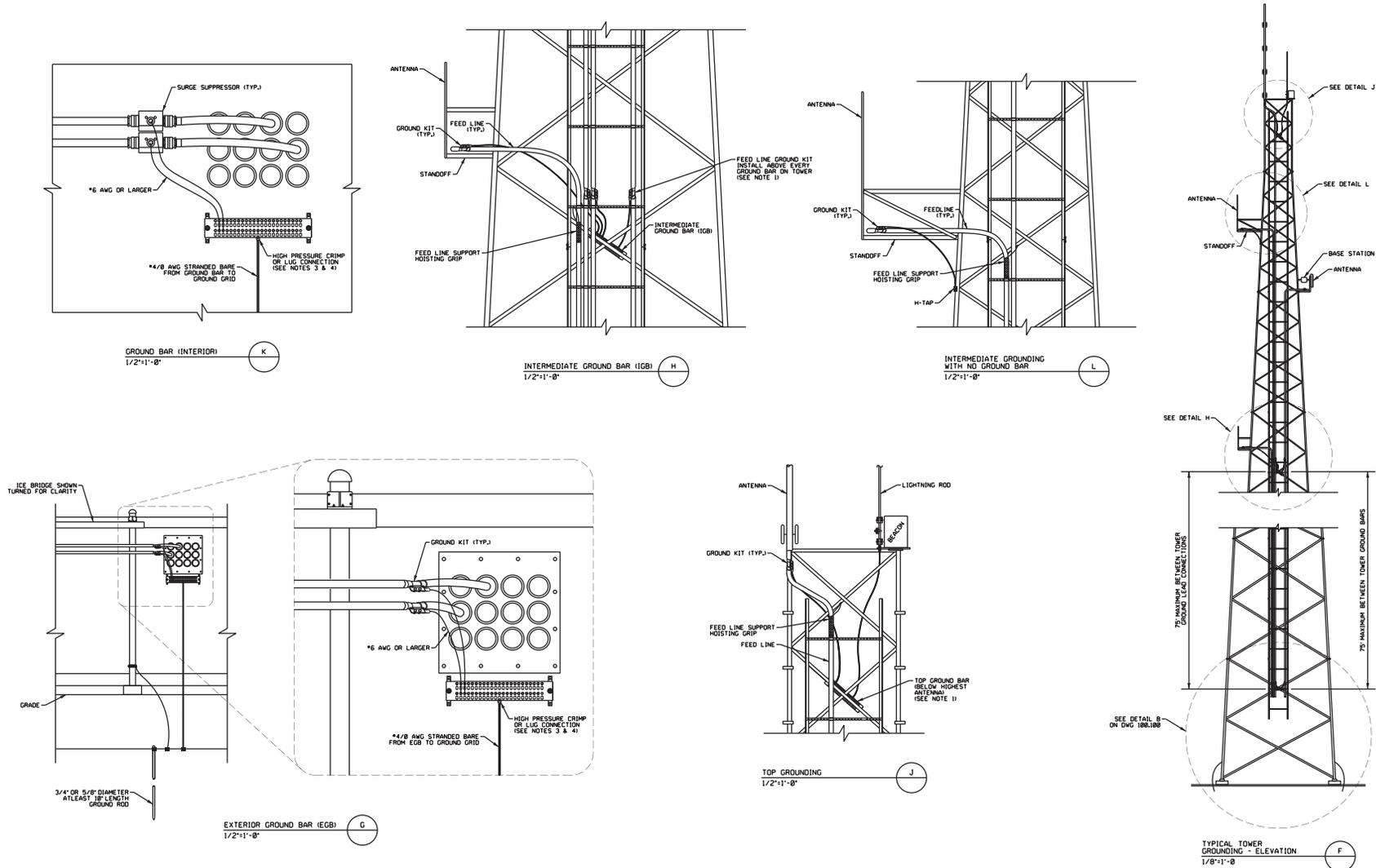
PG&E Upgrades: OPGW



Source: PVS, 2014.

Figure B-7

PG&E Upgrades:
Microwave Towers



GENERAL NOTES:

1. TOWER GROUND BARS (TOP, INTERMEDIATE, BOTTOM) SHOULD BE BONDED TO THE TOWER USING STRUCTURAL BOLTS. HORIZONTAL CROSS-BRACING IS PREFERRED, IF NOT AVAILABLE, MOUNT TO ANGLED BRACING.
2. ALL BELOW-GRADE BONDS AND JOINTS (E.G. CABLE-TO-CABLE, CABLE-TO-GROUND ROD, CABLE-TO-STEEL BAR, ETC.) SHOULD BE EXOTHERMICALLY WELDED.
3. EXOTHERMIC WELDING SHOULD BE USED FOR ABOVE-GROUND CONNECTIONS ONLY WHEN OTHER BONDING METHODS ARE NOT POSSIBLE.
4. WHEN EXOTHERMIC WELDING IS NOT APPLICABLE, THE FOLLOWING BONDING METHODS SHOULD BE USED: PIPE CLAMPS, LUGS AND COMPRESSION CLAMPS.



Figure B-8

Microwave Tower Design

Source: PVS, 2014.

December 2014

Draft SEIR