PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

December 2, 2014

Mr. Greg Parker
Pacific Gas and Electric Company
Principal Land Planner
1455 E. Shaw Avenue
Fresno, CA 93710

Subject: Shepherd Substation Project – Notice to Proceed #4

Dear Mr. Parker:

The California Public Utilities Commission (CPUC) has received your request for Notice to Proceed (NTP) #4 and Minor Project Modification (MPM) #4 for the Shepherd Substation Project (project). This letter presents the CPUC findings and authorizes NTP #4.

Project Background

The CPUC adopted a Final Initial Study/Mitigated Negative Declaration (IS/MND) for the Pacific Gas and Electric Company (PG&E) project in accordance with the California Environmental Quality Act (CEQA) on May 23, 2013 (Decision No. 13-05-019, as amended). The IS/MND includes applicant proposed measures (APMs) and mitigation measures (MMs) that were adopted as conditions of project approval, as well as applicable Avoidance and Minimization Measures (AMMs) included in PG&E's San Joaquin Valley Operations & Maintenance Habitat Conservation Plan (HCP). CPUC also adopted a Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) to ensure compliance with all AMMs, APMs, and MMs during project implementation. The MMCRP describes the CPUC NTP process, which requires PG&E to obtain an approval letter from CPUC, authorizing PG&E to initiate project construction. The MMCRP also describes the MPM process, which requires CPUC review of any project changes for consistency with CEQA requirements.

NTP and MPM Request

On October 28, 2014, PG&E submitted NTP #4 requesting CPUC authorization to commence construction of the distribution feeder lines for the project, as well as all other remaining construction activities addressed in the IS/MND that were not previously authorized. PG&E also submitted MPM #4, which described modifications to the distribution line installation method, and clarified work required to establish service connections to the new distribution lines. PG&E submitted a revised version of the submittal package on October 31, 2014, as requested by CPUC. PG&E provided additional information to support the request on November 11 and 19, 2014. PG&E's revised request for NTP #4 and MPM #4, as well as the CPUC review form for MPM #4, are attached to this letter (Attachments 1 and 3). An updated

version of the Mitigation Monitoring Program Table (Appendix B of the MMCRP) describing the implementation status of each APM, AMM, and MM is also attached (Attachment 2).

Proposed Actions

NTP Request #4 – Distribution Line Construction

In NTP #4, PG&E requested to commence with construction of distribution feeder lines associated with the project. PG&E proposes to begin distribution construction on December 1, 2014. This is the final anticipated NTP for the project and includes NTP authorization for all activities identified in the IS/MND that have not been previously authorized. Distribution feeder line construction would include the following activities:

- **Construct Two New 21-kV Distribution Lines.** The new Shepherd Avenue West and Sunnyside Avenue South 21-kilovolt (kV) lines would be constructed underground in a collocated position on the west side of Sunnyside Avenue from the Shepherd Substation to Shepherd Avenue. The Shepherd Avenue West 21-kV line would remain underground and head west along the north side of Shepherd Avenue where it would be bored underneath the Enterprise Canal, and would ultimately connect to an existing aboveground power line at Preuss Avenue. The Sunnyside Avenue South 21-kV line would continue south along the west side of Sunnyside Avenue. The line would be bored underneath Shepherd Avenue and then would be installed on wood poles along the west side of Sunnyside Avenue. Existing wood poles would be replaced with new wood poles and new conductor would be installed.
- **Construct a New 12-kV Distribution Line.** The Shepherd Avenue East 12-kV line would be bored underneath Sunnyside Avenue and constructed underground along the east side of Sunnyside Avenue to Shepherd Avenue. The line would then continue underground to the east along the north side of Shepherd Avenue.
- **Transfer and Extend an Existing Distribution Line.** The existing overhead distribution line leading north from Shepherd Substation to Behymer Avenue would be installed as underbuild to the new power line and would be extended to Copper Avenue.

MPM Request #4 – Distribution Construction Modifications

In addition to the actions described above, NTP #4 includes the following actions that are described in further detail in the attached MPM #4 Review Form:

- **Underground Distribution Installation Method**. PG&E proposes to modify the underground installation method for segments of the Shepherd Avenue West 21-kV and Shepherd Avenue East 12-kV distribution lines to be installed along the north side of Shepherd Avenue from trenching to horizontal directional drilling (HDD). The purpose of installation the underground distribution lines using the HDD method is to reduce ground disturbance and vegetation removal that would be involved with the trenching method that was previously proposed.

- **Distribution Service Line and Tap Connections**. PG&E clarified the work procedures that would be required to connect existing aboveground and underground service line and line tap connections to project distribution lines. These procedures were not included in PG&E's Proponent's Environmental Assessment or addressed in the IS/MND.
- **Distribution Components**. PG&E clarified that additional components associated with the distribution lines and service connection work are required. PG&E would install two new interset poles along the power line alignment, install one new pole west of the Enterprise Canal along Shepherd Avenue, and replace two poles outside the immediate project alignment to the north and south of the Shepherd Avenue East 12-kV Distribution Line. Two additional splice boxes would be installed along the power line alignment adjacent to tubular steel poles (TSPs) 312 and 314 (also referred to as TSPs 1/11 and 1/13, respectively). In addition, various pole hardware associated with the service connection work would be replaced with new hardware, the farthest of which would be approximately 1,000 feet from the project alignment (approximately three pole and conductor spans).
- **Distribution Work Areas and Access**. The additional proposed HDD construction method, service connection work, and distribution components would require the use of additional work areas and access routes. The HDD work would require six large (approximately 5 feet wide by 10 feet long by 4 feet deep) and ten smaller bore pits (approximately 3 feet by 3 feet by 2 feet deep). In addition, PG&E clarified the locations of two pull-and-tension sites (PTSs) required to reconductor the aboveground distribution line that were not previously identified in the IS/MND.

The proposed poles, splice boxes, bore pit locations, and PTSs are shown on the map included with the MPM #4 Request (Attachment 3).

CPUC Review

CPUC reviewed NTP Request #4 for consistency with the analysis in the IS/MND and compliance with applicable preconstruction requirements, MMCRP procedures, and project permits. The status of preconstruction approvals and permit requirements is summarized by category in Table 1. The current status of preconstruction plans is summarized in Table 2. Preconstruction survey requirements are listed in Table 3.

Table 1: Applicable Permit, Authorization, and Notification Requirements

Permit or Authorization	Requirement	Submittal Dates	Status
CPUC Permit to Construct	General Order 131-D, Section III.B	**Due:** Prior to construction	**Complete** CPUC authorized a Permit to Construct for the project on May 23, 2013, as amended.

Table 1: Applicable Permit, Authorization, and Notification Requirements

Permit or Authorization	Requirement	Submittal Dates	Status
NTP for proposed actions (power line construction)	MMCRP	**Due:** Prior to construction **Received by CPUC:** October 28, 2014	**Complete** This letter serves as NTP #4.
Incidental take of special-status species in the project area	Endangered Species Act, Section 10 CDFW Code, Section 2081	**Due:** Prior to construction **Received by CPUC:** April 10, 2012	**Complete** The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) verified incidental take coverage for special-status species under PG&E's HCP on March 28, 2012, and April 6, 2012, respectively.
Notice of Intent (NOI) with National Permit Discharge Elimination System (State Water Resources Control Board)	Construction General Permit Order 2009-0009-DWQ	**Due:** Prior to construction **Received by CPUC:** December 20, 2013	**Complete** PG&E submitted an NOI to the State Water Resources Control Board on December 13, 2013.
Dust Control Plan approved by San Joaquin Valley Air Pollution Control District (SJVAPCD)	SJVAPCD, Rule 8021	**Due:** Prior to power line construction **Received by CPUC:** July 17, 2014	**Complete** A plan approved by the SJVAPCD was provided to CPUC.
Notify landowners within 300 feet of the project area of project activities, and residents in areas with heavy construction noise.	MM Land Use-1 APM Noise-7	**Due:** 30 days prior to work (MM Land Use-1 only) **Received by CPUC:** November 11, 2014	**Complete** PG&E sent notification letters to residences within 300 feet of the power line and shoo-fly on January 10 and July 9, 2014. Letters were sent to residences adjacent to the distribution lines on October 16, 2014.
Suitable habitat and sensitive area flagging (e.g., special-status species habitat, seasonal wetlands/vernal pools, ponds, and canals), as needed if detected during preconstruction surveys	APM Bio-12 APM Bio-14 APM Bio-19 APM Bio-20 AMM 12 AMM 15 AMM 17 MM Biology-2 APM WQ-2	**Due:** Prior to activity within 250 feet of the seasonal wetland/vernal pools	***Pending (Condition of Approval #1)***

Table 1: Applicable Permit, Authorization, and Notification Requirements

Permit or Authorization	Requirement	Submittal Dates	Status
Contract an archaeological and paleontological monitor	MM Cultural-2	**Due:** Prior to construction **Received by CPUC:** March 26, 2014	**Complete** Applied EarthWorks has been contracted to provide archaeological and paleontological monitoring services, as described in the Paleontological Resource Management Plan.

Table 2: Applicable Plans and Programs

Plan or Program	Requirement	Submittal Dates	Status
Cultural Resource Awareness Program	MM Cultural-1	**Due:** December 21, 2013 **Received by CPUC:** December 4, 2013	**Approved** January 14, 2014
Environmental Training Program (ETP), and Environmental Compliance Management Plan (ECMP)	APM Bio-6 AMM 1 MM Hazards-2*	**Due:** December 21, 2013 **Received by CPUC:** November 27, 2013 (ECMP) and December 4, 2013 (ETP)	**Approved** December 30, 2013, and January 14, 2014, respectively
Site Safety Plan (PG&E titled "Health & Safety Plan")	MM Hazards-1	**Due:** December 21, 2013 **Received by CPUC:** December 4, 2013	**Approved** January 31, 2014
Stormwater Pollution Prevention Plan (SWPPP), including an Erosion and Sediment Control Plan (ESCP)	APM Geo-1/WQ-1	**Due:** Prior to January 21, 2014 **Received by CPUC:** December 4, 2013	**Approved** January 7, 2014
Paleontological Resources Management Plan	MM Cultural-2 MM Cultural-3	**Due:** Prior to Construction **Received by CPUC:** March 26, 2014	**Approved** June 27, 2014

Notes:

* MM Hazards-2 specifies implementation of an Environmental Training and Monitoring Program. PG&E prepared an ETP to address worker training and a separate ECMP to address monitoring requirements.

Table 3: Applicable* Preconstruction Surveys

Resource	Requirement	Submittal Dates	Status
Special-Status Wildlife			
California tiger salamander	AMM 17	**Due:** Prior to construction activities **Received by CPUC:** August 8, 2014	**Complete** Distribution underbuild work areas north of the substation site are located within the power line corridor. Areas that contain potential habitat for these species were surveyed prior to power line construction associated with NTP #3. No special-status wildlife were identified. There are currently no distribution work areas south of the substation that are within or adjacent to potential habitat for these species.
Burrowing owl	MM Biology-3	**Due:** Within 30 days prior to construction activities **Received by CPUC:** August 8, 2014	
Kit fox	MM Biology-5		
Molestan blister beetle	MM Biology-2		
American badger	MM Biology-6		
Nesting bird	MM Biology-4 AMM 22	**Due:** Within 30 days prior to ground- and vegetation-disturbing activities during the avian nesting season (February 1 to September 15) **Received by CPUC:** *Pending*	***Pending (Condition of Approval #2*** Nesting bird surveys are required prior to work during the nesting season and prior to work in new areas. Ongoing monitoring is required for any nests that are located within nesting bird awareness buffers surrounding project work areas (250 feet for passerines and 500 feet for raptors).
Special-Status Plants			
• Dwarf downingia *(Blooms: March to May)* • Succulent owl clover *(Blooms: April and May)* • Spiney-sepaled button celery *(Blooms: April and May)* • San Joaquin Valley orcutt grass *(Blooms: April to September)*	MM Biology-1	**Due:** Prior to construction in naturalized areas containing potential habitat Surveys to be conducted during the blooming period for each species **Received by CPUC:** July 1, 2014	**Complete** Focused botanical surveys were conducted on May 1, 5, 21, and 22, and June 25, 2014. Spiney-sepaled button celery was identified in abundance in the vicinity of TSPs 305 to 310 (also referred to as TSPs 0/4 to 0/9). MM Biology-1 and AMMs 12, 13, and 14 will be implemented to reduce impacts to the species.

Notes:

* Surveys only address work areas associated with the proposed actions listed in this NTP.

Authorization of NTP #4

CPUC authorizes NTP #4 with conditions of approval. PG&E may commence with the proposed actions as described in the IS/MND and this letter when the conditions of approval have been completed. The conditions of approval listed below apply to NTP #4.

Conditions of Approval

Suitable Habitat and Sensitive Area Flagging/Exclusion Zones

1. PG&E shall flag and avoid appropriate exclusion zones where suitable habitat and sensitive areas are located near access roads and work areas, as required by the applicable APMs, AMMs, and MMs identified in Table 2.

Preconstruction Surveys

2. PG&E shall conduct applicable preconstruction nesting bird surveys in all work areas associated with the proposed actions as described in Table 3. The results of a nesting bird survey conducted prior to construction within 30 days of the nesting season (February 1 – September 15) shall be submitted to CPUC.

Conclusion

PG&E is authorized to begin all construction activities described in the IS/MND, and as modified by CPUC review of MPMs #1 through #4, once the conditions of approval described in this letter have been met. All project APMs, MMs, permit conditions, and other CPUC requirements shall be implemented as described in the IS/MND and MMCRP.

Please contact me if you have any questions.

Sincerely,

Michael Rosauer
CPUC Project Manager

cc: Tom Johnson, PG&E
Brooke Langle, Terra Verde
Susanne Heim, Panorama
Aaron Lui, Panorama

Attachments

1. CPUC MPM #4 Review Form
2. Updated Version of the Mitigation Monitoring Program Table (Appendix B of the MMCRP)
3. PG&E NTP #4 and MPM #4 Request with Attachments as revised on October 31, 2014

Attachment 1
CPUC MPM #4 Review Form

SHEPHERD SUBSTATION PROJECT
Minor Project Change Review Form

Minor Project Change Type:	Change #:	Determination
Minor Project Modification (MPM)	4	De Minimis Change

Part A: Minor Project Change Summary			
Date of Determination:	**Date Request Submitted:**	**Start Date:**	**Expected End Date:**
12/2/2014	10/28/2014	12/2/2014	12/31/2015
Submitted by:	**Organization and Title:**	**Duration and Work Hours:**	
Brooke Langle	Terra Verde, PG&E Environmental Compliance Supervisor	Work would occur during standard construction work hours (i.e., between 6 a.m. and 9 p.m. on weekdays, and 7 a.m. and 5 p.m. on weekends)	

Location(s): *(Describe applicable location(s), address, and/or dimensions)*

The areas associated with the proposed actions are shown on the map included with PG&E's request for MPM #4 (Attachment 2). The following areas are included in this MPM:

- Distribution Underbuild on the 115-kV Transmission Line (collocated on tubular steel poles [TSPs])
- Sunnyside Avenue South 21-kV Distribution Line
- Shepherd Avenue West 21-kV Distribution Line
- Shepherd Avenue East 12-kV Distribution Line

Proposed Action(s): *(List and describe each proposed action)*

The following actions are proposed by component:

1. **Underground Distribution Installation Method.** PG&E proposes to modify the underground installation method for segments of the Shepherd Avenue West 21-kV and Shepherd Avenue East 12-kV distribution lines to be installed along the north side of Shepherd Avenue from trenching to horizontal directional drilling (HDD).
2. **Distribution Service Line and Tap Connections.** PG&E clarified the work procedures that would be required to connect service line and line tap connections to project distribution lines. PG&E would reconnect at total of approximately 25 existing service connections to the new distribution lines. Approximately half of the connections are aboveground and half are underground. Underground connections would be made where splice boxes will be installed, and where existing connections are present. One of the existing aboveground connections along the eastern distribution alignment would be installed underground. Additional components and workspaces associated with service connection actions are described below under actions 3 and 4.
3. **Additional Distribution Components.** The following additional components would be installed to support the aboveground and underground distribution connections to the new project lines:

a. **New and Replaced Poles.** Three new poles would be added and two existing poles would be replaced. Construction activities at the pole locations would include the installation or replacement of poles and other pole hardware, including anchor wires, raptor guards, cutouts, insulated jumpers, and bushing covers.
    i. **Interset Poles.** Two new wood interset poles would be installed along the power line alignment. One would be located south of TSP 308 (or TSP 0/7)[1] and the other would be located south of TSP 312 (or TSP 1/11).
    ii. **New Pole.** One new wood pole would be installed along the Shepherd Avenue West 21-kV distribution line segment direction west of the Enterprise Canal.
    iii. **Replace Poles.** Two wood poles would be replaced along the Shepherd Avenue East 12-kV distribution line segment. One pole is located approximately 150 feet to the north and the other is located approximately 75 feet to the south of Shepherd Avenue.

b. **Splice Boxes.** Two additional in-ground splice boxes (approximately 5.5 feet wide by 9.5 feet long by 7 feet deep) would be installed along the power line alignment with distribution underbuild. One would be located adjacent to TSP 312 (or TSP 1/11) at Behymer Avenue and the other would be installed adjacent to TSP 314 (or TSP 1/13) south of Behymer Avenue.

c. **Other Distribution Components.** In addition to the poles and hardware directly adjacent to the new project distribution lines, PG&E would upgrade distribution service-related components on structures at various locations outside of the project corridor, the farthest of which would be approximate 1,000 feet (approximately three conductor spans) from Sunnyside Avenue. Typical hardware that would be upgraded includes anchor wires, raptor guards, cutouts, insulated jumpers, and bushing covers.

4. **Additional Distribution Work Areas and Access.** The modified distribution construction methods and service connection components would require the following work area modifications:
    a. **Bore Pits.** Six large bore pits (approximately 5 feet wide by 10 feet long by 4 feet deep) would be excavated on either side of HDD locations for installation of distribution conductor. Ten smaller bore pits (approximately 3 feet wide by 3 feet long by 2 feet deep) would be excavated intermittently to install splice boxes and service taps. All equipment and materials would be contained within the bore pit locations or previously approved work areas on the road shoulder, which are part of PG&E's County Franchise Area. No additional staging work area would be needed.
    b. **Pull-and-Tension Site (PTS) Clarification**. Two PTSs would be needed to reconductor the overhead distribution line on Sunnyside Avenue south of Shepherd Avenue. One PTS would be located on the west side of Sunnyside Avenue immediately north of Shepherd Avenue, and the other would be located on the west side of Sunnyside Avenue immediately south of Nees Avenue. PTSs for power line and overhead distribution stringing were described in the IS/MND; however, the locations for the overhead distribution lines were not mapped.

[1] PG&E revised the TSP location numbers used in the IS/MND to a new format. A conversion table was included with PG&E's request for MPM #2.

c. **Service Connection Work Areas.** Additional work areas would be needed to reestablish the aboveground and underground service connections and associated components described under actions 2 and 3.
   i. **Pole Work Areas.** Aboveground connections would be made on poles and buildings and accessed via the road shoulder, driveways, or by overland travel. Replacement of the existing pole approximately 100 feet north of Shepherd Avenue would require access between orchard rows. The work areas surrounding the new or replaced poles would be consistent with other poles addressed in the IS/MND. The work areas would be approximately 40 feet by 100 feet or less, and replaced poles would be installed within approximately 5 feet of their current positions.
   ii. **Underground Connection Work Areas.** Underground connections would be installed in trenches between splice boxes or service taps and the buildings being serviced. Trench lengths would range from a few feet to 200 feet, with most being between 50 and 100 feet. Splice box work areas would be consistent with the IS/MND (5.9 feet by 9.5 feet).
   iii. **Other Distribution Component Work Areas.** PG&E would access other distribution component work areas via county roads and disturbed road shoulders, the PG&E County Franchise Area, or private driveways, if needed.

Purpose(s): *(Explain why the proposed action(s) are necessary)*

The purpose of the proposed modifications is as follows:

1. **Underground Distribution Installation Method.** PG&E proposes the HDD undergrounding method to limit the amount of ground disturbance and vegetation removal associated with distribution construction along Shepherd Avenue. PG&E determined that trenching the line as described in the IS/MND would require removal of a large number of orchard trees. HDD was addressed in the IS/MND; however, the method was previously limited to three boring locations where the distribution lines would be constructed under the Enterprise Canal, Sunnyside Avenue, and Shepherd Avenue.
2. **Distribution Service Line and Tap Connections.** PG&E clarified the connection work procedures that would be required to maintain power services. These procedures were not defined in the IS/MND, but are typical actions following distribution construction.
3. **Distribution Components.** PG&E proposes installation of additional distribution components to support the service connection work clarified under action 2. The two new interset poles are required for line safety clearances at aboveground connect locations. The new pole would be installed to hold the riser and cutouts required to continue serving an existing tap. The two existing poles would be replaced during the reconnection process when hardware on the poles is upgraded.
4. **Distribution Work Areas and Access.** The additional and clarified work areas are required to facilitate distribution construction and establish the described service connections.

Part B: Existing Conditions

Current and Adjacent Land Use(s):

Land uses at and adjacent to the proposed locations along the power line alignment, Sunnyside Avenue, and Shepherd Avenue include a mix of low-density residential housing, agricultural lands, and undeveloped land.					
Has landowner approval been granted? *(Describe below)*			**Landowner:**	**Date of Approval:**	**Approval Verified by:**
☒ Yes	☒ No	☐ N/A	Multiple	10/16/2014	Galen Raymond and Chris Howard, PG&E
PG&E notified residences of scheduled construction activities within 300 feet of the substation on January 10, 2014, and for the power line corridor on July 9, 2014, in accordance with Mitigation Measure (MM) Land Use-1 and Applicant Proposed Measure (APM) Noise-7. Residents adjacent to the distribution line locations along Sunnyside Avenue and Shepherd Avenue were notified on October 16, 2014. PG&E would coordinate with landowners prior to accessing private land when installing service connections and distribution components.					

Surveys *(List any new survey reports under Part D, attach a copy, and describe relevant survey details under the applicable resource category listed in the Part E)*		
Biological Resources. Were all sites associated with the proposed action(s) surveyed for biological resources with the potential to occur in the area? If so, were survey results positive or negative? Were surveys completed during the appropriate timing and season to detect resources? (*If not, describe under the applicable resource category in Part E)*	☒ Previously Surveyed ☒ Survey Attached	☒ Positive ☐ Negative
	☐ N/A	
Cultural Resources. Were all sites associated with the proposed action(s) surveyed for cultural resources (records search and pedestrian survey)? If so, were survey results positive or negative?	☒ Previously Surveyed ☐ Survey Attached	☒ Positive ☐ Negative
	☐ N/A	
Hydrology. Were all sites associated with the proposed action(s) surveyed for hydrologic resources? If so, were survey results positive or negative?	☒ Previously Surveyed ☐ Survey Attached	☒ Positive ☐ Negative
	☐ N/A	

Part C: Permits, Agency Approvals, and Environmental Protection Measures (EPMs) *(List any new permits or agency approvals under Part D, attach a copy, and describe relevant details under the applicable resource category listed in Part E)*		
Have all required permits, permit amendments/authorizations, or agency approvals been issued by resource agencies with applicable jurisdiction?	☒ Previously Provided	
	☐ Authorization Attached	
	☐ N/A	
Would the proposed action(s) conflict with permit conditions or agency approvals?	☐ Yes	☒ No
Would the proposed action(s) conflict with project applicant proposed measures,	☐ Yes	☒ No

avoidance and minimization measures, or mitigation measures listed in the Initial Study/Mitigated Negative Declaration (IS/MND)?		

Part D: Attached Materials: *(e.g., surveys, maps, photos, memos, agency authorizations, etc.)*
1. PG&E MPM #4 Request Form (as revised on October 31, 2014) 2. Map with MPM #4 Components 3. Terra Verde Biological Survey Memo (June 26, 2014)

Complete the IS/MND Consistency Checklist below (Part E) and answer the consistency questions for each resource category. Include a description and justification below each resource category, as necessary. The consistency questions were developed using the CEQA Checklist provided in the IS/MND. Refer to the IS/MND for the details on the project impact evaluation.

Part E: IS/MND Consistency Checklist				
Would the proposed action(s) result in a new impact, or increase the severity of a previously analyzed impact to:	**No Change**	***De Minimis* Change**	**Potentially Significant Change**	**N/A**
Aesthetics (e.g., damage scenic resources or vistas, degrade the existing visual character of the site and its surroundings, or create sources of light or glare)? *Previous IS/MND evaluation:* ***Less than Significant with Mitigation***	☐	☒	☐	☐
The proposed actions would involve installing new distribution components (e.g., wood poles, splice boxes, and other various pole hardware) at and adjacent to project distribution lines along Behymer Avenue, Sunnyside Avenue, and Shepherd Avenue. The IS/MND includes a description of underground distribution connections and maintenance of power service to customers; however, the service connection process and additional component and pole upgrades were not described. Poles and hardware similar to those proposed in this MPM were previously addressed in the IS/MND and found to be less than significant with mitigation. PG&E's clarification that distribution construction involves making service connections and installing distribution components would not change the findings presented in the IS/MND. Therefore, aesthetic impacts would remain less than significant. There are no aesthetics mitigation measures applicable to project distribution line construction.				
Agriculture and Forestry Resources (e.g., convert Farmland to nonagricultural use, or create a conflict with existing agricultural zoning or a Williamson Act)? *Previous IS/MND evaluation:* ***Less than Significant with Mitigation***	☐	☒	☐	☐
The proposed actions would involve installing distribution components and the use of additional workspace on an almond orchard and a walnut orchard that are located at the northwest and northeast corners of the Shepherd Avenue and Sunnyside Avenue intersection, respectively. Both orchards are designated by the Farmland Monitoring and Mapping Program maintained by the California Department of				

Part E: IS/MND Consistency Checklist				
Would the proposed action(s) result in a new impact, or increase the severity of a previously analyzed impact to:	**No Change**	***De Minimis* Change**	**Potentially Significant Change**	**N/A**
Conservation as Prime Farmland. The orchard west of Sunnyside Avenue where the Shepherd Substation is located is subject to a Williamson Act contract. Impacts to these orchards were evaluated in the IS/MND and were determined to be less than significant with mitigation; however, the proposed actions described in this MPM include minor impact changes to the orchards. The MPM would not result in any additional conversion of Farmland to non-agricultural uses. Therefore, impacts to agricultural resources would remain less than significant. The proposed actions would not have an effect on forestry resources.				
Air Quality and Greenhouse Gases (e.g. produce additional emissions, or expose sensitive receptors to additional pollutants)? *Previous IS/MND evaluation:* ***Less than Significant with Mitigation***	☒	☐	☐	☐
The HDD method would reduce the amount of ground disturbance and dust generation associated with trenching. The increased use of boring equipment would be offset by a reduction in the use of trenching equipment. Installing the distribution components would involve the additional use of vehicles and equipment such as boom and line trucks; however, the increase in air emissions would be negligible compared to air emission levels evaluated in the IS/MND. Air impacts would remain less than significant with implementation of applicable requirements included in APMs Air-1 through Air-8, MM Air-1, and APMs GHG-1 through GHG-4. In addition, PG&E would implement the San Joaquin Valley Air Pollution Control District-approved Dust Control Plan to reduce project impacts to air quality.				
Biological Resources (e.g., cause an adverse effect to sensitive or special-status species, or impact riparian, wetland, or any other sensitive habitat, or conflict with local policies or ordinances protecting biological resources)? *Previous IS/MND evaluation:* ***Less than Significant with Mitigation***	☒	☐	☐	☐
The proposed actions would not change biological impacts addressed in the IS/MND. The distribution components and construction work areas would be located within developed or ruderal locations along the project corridor that have been surveyed for special-status plants and animals. Wildlife and botanical surveys were conducted within suitable habitat in the project area in preparation of the IS/MND and prior to construction in each project area. During May and June 2014 botanical surveys, a population of spiny-sepaled button celery (*Eryngium spinosepalum*) was identified west of the power line corridor between TSPs 305 and 310 (or TSPs 0/4 and 0/9, respectively). No other special-status species or known habitat has been identified to date. A copy of the botanical survey memo is included with the NTP #4 and MPM #4 request package (Attachment 1). One of the two new interset poles that would be installed is located in the power line corridor south of TSP 308 (or TSP 0/7), which is adjacent to the population of spiny-sepaled button celery. The locations of these plants were previously mapped and plants located in work areas were flagged for avoidance prior to constructing TSP foundations as required by AMM 12. Prior to installing the new interset pole a biologist would flag any				

Part E: IS/MND Consistency Checklist				
Would the proposed action(s) result in a new impact, or increase the severity of a previously analyzed impact to:	**No Change**	***De Minimis* Change**	**Potentially Significant Change**	**N/A**
plants for avoidance that may be impacted by the work. Any impacts to spiny-sepaled button celery would remain less than significant and consistent with the IS/MND with implementation of AMMs 12, 13, and 14. PG&E is responsible for conducting additional species-specific biological surveys, as applicable, depending on the habitat present, along the project corridor and at proposed work areas within 30 days of distribution construction. The results will be provided to the CPUC upon completion and prior to construction.				
Cultural Resources (e.g., cause adverse change to a historical or archeological resource)? *Previous IS/MND evaluation:* ***Less than Significant with Mitigation***	☒	☐	☐	☐
The proposed actions would not increase cultural resource impacts. Transcon completed cultural resource surveys in 2010 and 2011. Three previously recorded historic sites were identified in the vicinity of distribution construction along Shepherd Avenue, which included the Enterprise Canal, West Branch Helm Colonial Ditch, and the vehicle bridge where Shepherd Avenue crosses the Enterprise Canal. Impacts to these features during distribution construction would be avoided by boring underneath or spanning them aboveground as described in the IS/MND. The proposed actions would not increase the risk of additional impacts to historic features with implementation of applicable requirements described in APMs Cult-2, Cult-3, and Cult-4, and MM Cultural-1. Therefore, the proposed actions would not change cultural resources impacts addressed in the IS/MND.				
Paleontological Resources (e.g., cause adverse change to a paleontological resource)? *Previous IS/MND evaluation:* ***Less than Significant with Mitigation***	☒	☐	☐	☐
The proposed actions would not change paleontological resource impacts. The majority of the project area is located in a geologic formation that has been classified as a sensitive paleontological resource area, as described in the IS/MND. HDD, trenching, and wood pole installation in the distribution sections of the project were previously evaluated in the IS/MND and determined to be less than significant with implementation of applicable requirements described in MM Cultural-1, Cultural-2, and Cultural-3. Increasing the use of HDD and the additional excavation involved with installing distribution components (e.g., wood poles, splice boxes, and other various pole hardware) would not pose a greater risk from the activities evaluated in the IS/MND. Therefore, impacts to paleontological resources would remain less than significant.				
Geology and Soils (e.g., cause or expose people or structures to geologic or soil hazards, including erosion or loss of topsoil)? *Previous IS/MND evaluation:* ***Less than Significant***	☒	☐	☐	☐
The proposed actions would reduce the amount of ground disturbance along Shepherd Avenue. HDD drilling activities were considered in the IS/MND. The proposed additional HDD drilling would follow the best management practices required in APM Geo-1/WQ-1. Because the proposed activities (e.g., HDD				

Part E: IS/MND Consistency Checklist				
Would the proposed action(s) result in a new impact, or increase the severity of a previously analyzed impact to:	**No Change**	***De Minimis* Change**	**Potentially Significant Change**	**N/A**
drilling, splice box construction, and pole installation) were previously considered in the IS/MND, the proposed actions would not change geology and soils impacts addressed in the IS/MND.				
Hazards and Hazardous Materials (e.g., create or increase the exposure of people or structures to hazardous materials or wildland fires, involve the use of additional hazardous materials or equipment, or interfere with an adopted emergency plan)? *Previous IS/MND evaluation:* ***Less than Significant with Mitigation***	☒	☐	☐	☐
The proposed actions would not increase hazards or the use of hazardous materials to a level greater than that evaluated in the IS/MND. Hazardous materials associated with construction such as fuels, lubricants, and oils were addressed in the IS/MND. The proposed actions would include the same risk of hazards as other activities addressed in the IS/MND. PG&E would implement applicable requirements included in APMs Haz-1 through Haz-3 and MMs Hazards-1 through Hazards-4, which include implementation of a Site Safety Plan for the project. Hazards and hazardous material impacts would remain less than significant with implementation of applicable mitigation.				
Hydrology (e.g., degrade water quality, discharge waste or sediment, deplete groundwater, alter the existing drainage pattern, create additional runoff water or polluted runoff, place structures in a 100-year flood hazard area, or expose people or structures to a significant risk involving flooding)? *Previous IS/MND evaluation:* ***Less than Significant with Mitigation***	☒	☐	☐	☐
The proposed actions would not change hydrology impacts addressed in the IS/MND. Water features within and adjacent to the project alignment include seasonal wetlands, ephemeral drainage features, Enterprise Canal, Dry Creek, and manmade freshwater ponds. The proposed actions would not increase the risk of impacts to these features, and the impacts would be mitigated with implementation of applicable requirements included in APMs WQ-2 and WQ-3 and MM Hydrology-1, through Hydrology-3. Impacts to hydrology and water quality would remain less than significant.				
Land Use and Planning (e.g., conflict with a land use plan, policy, or regulation of an agency with jurisdiction over the project, or conflict with a habitat conservation plan)? *Previous IS/MND evaluation:* ***Less than Significant***	☒	☐	☐	☐
The proposed actions would not change impacts to land use and planning addressed in the IS/MND.				
Mineral Resources (e.g., result in the loss of availability of a known mineral resource or mineral resource recovery	☒	☐	☐	☐

Part E: IS/MND Consistency Checklist				
Would the proposed action(s) result in a new impact, or increase the severity of a previously analyzed impact to:	**No Change**	***De Minimis* Change**	**Potentially Significant Change**	**N/A**
site)? *Previous IS/MND evaluation:* ***No Impact***				
The proposed actions would not impact mineral resources.				
Noise (e.g., expose sensitive receptors to additional noise or vibration)? *Previous IS/MND evaluation:* ***Less than Significant***	☐	☒	☐	☐
Using the HDD method to replace trenching along Shepherd Avenue has the potential to change noise and vibration levels addressed in the IS/MND. The duration and locations of drilling activities along Shepherd Avenue would increase, which may result in higher levels of vibration than trenching; however, drilling would not occur closer to sensitive receptors than previously evaluated in the IS/MND. As described in the IS/MND, the level of vibration would depend upon the distance to surrounding receptors, the type of soil, and the intensity of the equipment creating the vibration. Generally, construction-related groundborne vibration would be short-term and is not expected to extend beyond 25 feet from the generating source, and no structures are located within 25 feet of the project. Noise and vibration during distribution construction would be temporary and last approximately 6 to 10 weeks, as described in the IS/MND. Noise impacts would remain less than significant with implementation of APMs Noise-1 through Noise-7. As noted above, PG&E notified residents adjacent to project distribution lines of the scheduled construction activities on October 16, 2014, in accordance with APM Noise-7.				
Population and Housing (e.g., induce population growth or displace housing)? *Previous IS/MND evaluation:* ***No Impact***	☒	☐	☐	☐
The proposed actions would not impact population and housing.				
Public Services (e.g., result in adverse impacts to government facilities that provide public service, such as fire protection, police protection, schools, and parks)? *Previous IS/MND evaluation:* ***No Impact***	☒	☐	☐	☐
The proposed actions would not impact public services.				
Recreation (e.g., increases the use of, or cause adverse effects to, parks or other recreational facilities)? *Previous IS/MND evaluation:* ***Less than Significant***	☒	☐	☐	☐
The proposed actions would not impact recreational resources.				
Transportation and Traffic (e.g., increase traffic congestion or degrade performance of the circulation system, taking into account all modes of transportation, or increase hazards due to a design feature)?	☒	☐	☐	☐

Part E: IS/MND Consistency Checklist				
Would the proposed action(s) result in a new impact, or increase the severity of a previously analyzed impact to:	**No Change**	***De Minimis* Change**	**Potentially Significant Change**	**N/A**
Previous IS/MND evaluation: ***Less than Significant with Mitigation***				
The proposed actions would not involve additional lane and road closures or more vehicle trips than were previously evaluated in the IS/MND because the number of vehicle trips and the work areas near roads would not change as a result of the MPM. In the event that lane and/or road closures are required, PG&E would prepare and implement applicable traffic control plans required by the County as described in APM Tran-2. Traffic control plans are typically specific to each required lane and road closure, and are prepared in coordination with the County approximately one week before the closures. PG&E would make all deliveries during normal construction hours as required by APM Tran-1. Transportation and traffic impacts would remain less than significant with implementation of APMs Tran-1 and Tran-2.				
Utilities and Service Systems (e.g., result in construction of new, or expansion of existing, water facilities, stormwater drainage facilities, require additional water entitlements, or creation of new solid waste disposal needs)? *Previous IS/MND evaluation:* ***Less than Significant***	☒	☐	☐	☐
The proposed actions would not change utilities and service systems impacts addressed in the IS/MND. The underground distribution alignment would be the same as the alignment addressed in the IS/MND and the risk of impact to buried utilities would not increase from the proposed actions.				

Attachment 2
Updated Version of the Mitigation Monitoring Program Table (Appendix B of the MMCRP)

Table B-1: Mitigation Monitoring Program Table

Project EPMs (APMs, AMMs, and MMs)	Work Phase[A]	Location	Interpretation and Implementation Approach	Effectiveness Criterion	Responsible Parties	Required Actions[B]	Implementation Period and Status (NTP #4 Update Notes)
Aesthetics							
APM Visual-1: Construct a prefabricated concrete wall on the north and east sides of the substation and replanting as necessary to leave three rows of trees on the east and north sides of the substation or comparable visual screening to minimize contrast with the existing visual character of the area. As almond trees die, or are impacted by road widening along Sunnyside and Perrin Avenues, the trees will be replaced with compatible vegetation or comparable visual screening.	SUB	North and east sides of the substation	Confirm wall construction and visual screening east and north of the substation remain.	Concrete wall and visual screening east and north of the substation present.	PG&E CPUC	MON REP MON REP	**II. During Construction:** *Visual screening strategy and wall construction will be communicated to contractor during bidding and at initial environmental training. Confirmation of appropriate visual screening will occur in the field during construction.* (Ongoing)
APM Visual-2: Security lighting will consist of sodium vapor lamps and all exterior lighting will use non-glare light bulbs, designed and positioned to minimize casting light and/or glare to off-site locations. Security lighting will be designed at the substation in a way such that all lighting is directed inwards. In addition, all exterior lighting will be hooded to reduce light pollution.	SUB	Substation	Confirm that sodium vapor lamps and non-glare bulbs are installed. Confirm security lighting is directed inward and is hooded.	Described lighting system installed.	PG&E CPUC	DOC REV	**II. During Construction:** *Lighting requirements will be communicated to the contractor during bidding and at initial environmental training. PG&E Inspectors will confirm the use of appropriate lighting fixtures and orientation in the field during construction.* (Not applicable to date)
MM Aesthetics-1. The final color of the pre-fabricated concrete walls shall be chosen in consultation with the Fresno County.	SUB	North and east sides of the substation	Consult County regarding concrete wall color.	County-approved concrete wall color used.	PG&E CPUC	DOC MON REV MON	**I. Prior to Construction:** *PG&E will schedule a meeting with Fresno County prior to wall installation to determine the appropriate color for the concrete walls on the north and east sides of the station.* (Complete)
MM Aesthetics-2. To reduce the contrast and presence of the substation and related facilities: • Non-reflective finishes shall be used on fencing and all facilities taller than 8 feet. • Entrance road solid gates shall be a natural wood color.	SUB	Substation	Confirm that finishes are non-reflective and that gates are a natural wood color.	Described non-reflective surfaces used.	PG&E CPUC	DOC MON REV MON	**II. During Construction:** *Requirements for fence material and appearance will be communicated to the contractor during bidding and at the initial environmental training. PG&E Inspectors will confirm appropriate fencing color and appearance in the field during construction.* (Ongoing)
MM Aesthetics-3. To reduce the contrast and presence of the power line and circuits, PG&E shall use non-specular conductors and galvanized steel TSPs.	PL	Project power lines and TSPs	Confirm use of non-specular conductors and galvanized steel TSPs.	Described non-reflective equipment installed.	PG&E CPUC	DOC MON REV MON	**I. Prior to Construction:** *Material requirements for the new power line and associated TSPs will be communicated to the contractor during bidding and at the initial environmental training.* (Complete) **II. During Construction:** *PG&E Inspectors will confirm the use of approved materials in the field during construction.* (Not yet installed)

Air Quality							
APM Air-1: All disturbed areas that are not being actively used for construction purposes will be stabilized of dust emissions using water or covered with a tarp or other suitable covering.	SUB PL DL	All inactive disturbed areas	Visually inspect inactive disturbed areas to confirm stabilization measures have been applied. Stabilize disturbed areas that are not being used.	Disturbed areas that are inactive do not emit dust.	PG&E CPUC	MON MON	**II. During Construction:** *Dust control requirements were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Implementation of proper dust controls will be confirmed in the field throughout construction.* (Ongoing)
APM Air-2: All unpaved roads utilized for accessing the project will be stabilized by spraying with water.	SUB PL	Unpaved access roads being used for site access	Visually inspect stabilization of unpaved roads.	Unpaved roads do not emit dust.	PG&E CPUC	MON MON	**II. During Construction:** *Dust control requirements were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Implementation of proper dust controls will be confirmed in the field throughout construction.* (Ongoing)
APM Air-3: All ground-disturbing activities will be effectively controlled of fugitive dust emissions by application of water or by presoaking.	SUB PL DL	Where ground-disturbing activity is occurring	Visually inspect to verify control of fugitive dust emissions.	Areas undergoing ground-disturbing activities do not emit dust.	PG&E CPUC	MON MON	**II. During Construction:** *Dust control requirements were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Implementation of proper dust controls will be confirmed in the field throughout construction.* (Ongoing)

Table B-1: Mitigation Monitoring Program Table

Project EPMs (APMs, AMMs, and MMs)	Work Phase[A]	Location	Interpretation and Implementation Approach	Effectiveness Criterion	Responsible Parties	Required Actions[B]	Implementation Period and Status
APM Air-4: When materials are transported off site, all material will be covered or wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.	SUB PL DL	Vehicles being used for off-site material transport	Visually inspect that material transportation complies with the measure.	Off-site material transportation does not emit dust.	PG&E CPUC	MON MON	**II. During Construction:** *Dust control requirements were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Implementation of proper dust controls will be confirmed in the field throughout construction.* (Ongoing)
APM Air-5: All operations will remove the accumulation of mud or dirt from adjacent public streets at the end of each workday.	SUB PL DL	Public streets adjacent to the site	Visual inspection to verify streets are cleaned of mud and dirt.	Public streets clean of project-related mud and dirt.	PG&E CPUC	MON MON	**II. During Construction:** *Trackout clean-up requirements were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Implementation of proper controls (e.g., rumble strip at off-road intersections) and/or clean-up efforts will be confirmed in the field throughout*

							construction. (Ongoing)
APM Air-6: Trackout (i.e., dirt and mud transported on vehicle tires and transferred to the pavement upon existing the work area) will be removed at the end of each workday when it extends 50 or more feet from the site.	SUB PL DL	Public streets adjacent to the site	Visually inspect roadways around project site for trackout.	No trackout present more than 50 feet outside site boundaries.	PG&E CPUC	MON MON	**II. During Construction:** *Trackout clean-up requirements were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Implementation of proper controls (e.g., rumble strip at off-road intersections) and/or clean-up efforts will be confirmed in the field throughout construction.* (Ongoing)
APM Air-7: Speeds of vehicles and equipment operating on unpaved surfaces will be limited to no more than 15 miles per hour, and as required in the project dust control permit.	SUB PL	All unpaved surfaces	Verify that vehicles and equipment maintain speeds below 15 miles per hour.	No vehicles travel at speeds greater than 15 miles per hour on unpaved surfaces.	PG&E CPUC	MON MON	**II. During Construction:** *Dust control requirements were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Adherence to Project speed limits on unpaved roads will be confirmed in the field throughout construction.* (Ongoing)
APM Air-8: Dust suppressants or watering will be used to ensure that dust is controlled to less than 20 percent opacity when winds exceed 20 miles per hour.	SUB PL DL	Disturbed areas and unpaved surfaces	Visually inspect that dust is controlled to less than 20 percent opacity.	Dust is less than 20 percent opacity.	PG&E CPUC	MON MON	**II. During Construction:** *Dust control requirements were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Implementation of proper dust controls will be confirmed in the field throughout construction.* (Ongoing)
MM Air-1: All disturbed surface areas over 1,000 square feet must achieve final stabilization upon the completion of project construction. Final stabilization would be achieved through appropriate means that would provide long-term sediment and dust control. PG&E will be responsible for monitoring and maintaining all disturbed areas until final stabilization is achieved.	SUB PL DL	Disturbed areas >1,000 square feet	Visually inspect for permanent stabilization.	Work areas are permanently stabilized.	PG&E CPUC	MON MON	**III. Post-Construction:** *Post-construction site stabilization activities will be initiated following the completion of work. As appropriate and feasible, site stabilization measures will be implemented in discrete portions of the total Project area where work has been completed.* (Not yet initiated)
Greenhouse Gases							
APM GHG-1/Noise-5: When not performing construction, operation, or maintenance activities, vehicles will be shut off rather than left idling unnecessarily. Some equipment or vehicles may require extended start-up times. For such equipment, a common sense approach will be used to determine idling times. Normal idling will not exceed five minutes, as required by California law.	SUB PL DL	Idling vehicles; various locations	Verify that vehicles are not left idling more than 5 minutes.	No idling greater than 5 minutes occurs, with exception of specific equipment or vehicles that require extended start-up time.	PG&E CPUC	MON MON	**II. During Construction:** *Idling limits were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. As appropriate, signs reminding personnel of the maximum 5-minute idling time for standard vehicles and purposes will be posted in staging areas. Adherence to idling limits and the common sense approach will be confirmed in the field throughout construction.* (Ongoing)

APM GHG-2: Diesel fueled off-road construction equipment with 50 horsepower or greater engines shall at a minimum meet U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) Tier 1 engine standards. Compliance records will be kept by the general construction contractor. This APM is not applicable to equipment permitted by the local air quality district or certified through CARB's Statewide Portable Equipment Registration Program, or single specialized equipment that will be used for less than five total days.	SUB PL DL	N/A	Verify that compliance records are kept by general contractor.	All compliance records kept on file.	PG&E CPUC	DOC REV	**II. During Construction:** *Equipment standards and requirements will be communicated to the contractor during bidding and at the initial environmental training. PG&E Inspectors will confirm the use of approved equipment in the field during construction.* (Ongoing)

Table B-1: Mitigation Monitoring Program Table

Project EPMs (APMs, AMMs, and MMs)	Work Phase[A]	Location	Interpretation and Implementation Approach	Effectiveness Criterion	Responsible Parties	Required Actions[B]	Implementation Period and Status
APM GHG-3: PG&E will incorporate the following measures into its construction plans to further reduce greenhouse gas emissions: • Encourage construction workers to carpool by establishing carpooling to construction sites where feasible to do so. • Encourage recycling of construction waste. • Minimize welding and cutting by using compression of mechanical applications where practical and within standards.	SUB PL DL	N/A	Verify that WEAP contains encouragement of carpooling and recycling of construction waste. welding/cutting minimization.	Construction plans incorporate specified measures.	PG&E CPUC	DOC REV	**II. During Construction:** *Measures to reduce greenhouse gas emissions were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. If available, appropriate park-and-ride facilities will be identified and made known to Project personnel.* (Ongoing)
APM GHG-4: PG&E will continue to be an active member of the SF_6 Emission Reduction Partnership, which focuses on reducing emissions of sulfur hexafluoride (SF_6) from transmission and distribution sources. PG&E will also continue to institute new rules for more accurately monitoring its equipment for SF_6 leaks and immediately repairing leaks that are discovered. PG&E will ensure that all breakers purchased for this project will have a manufacturer's guaranteed SF_6 leakage rate of 0.5 percent per year or less.	SUB	N/A	Verify that all breakers have a manufacturer's guaranteed SF_6 leakage rate of 0.5 percent per year or less.	Appropriate breakers installed.	PG&E CPUC	DOC REV	**II. During Construction:** *Required materials standards will be communicated to the contractor during bidding. PG&E Inspectors will confirm the use of approved materials in the field during construction.* (Ongoing)
Biological Resources							
APM Bio-2: To prevent the spread of noxious weeds, only equipment which has been washed and is free of caked on mud, dirt, and other debris which could house plant seeds will be allowed in the project area.	SUB PL DL	All work areas	Wash vehicles and equipment prior to mobilizing to the project site to prevent the spread of noxious weeds.	Vehicles and equipment adequately washed and free of caked on mud, dirt, and other debris.	PG&E CPUC	DOC MON REP REV MON REP	**II. During Construction:** *Requirements regarding the cleaning of equipment were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Visual inspections of newly mobilized equipment will be conducted in the field throughout construction.* (Ongoing)

APM Bio-6: In accordance with, and in addition to the training requirements in AMM 1 of the PG&E San Joaquin Valley Habitat Conservation Plan (HCP), worker environmental awareness training will be conducted prior to initiating project construction activities and throughout the duration of construction, such that all new site workers have received training. Worker training will detail sensitive species of the project area and those conservation measures which have been identified to minimize impacts to them. In addition, workers will be informed about the presence, life history, and habitat of these species. Training will also include information on federal and state laws protecting migratory birds. Documentation of worker training will be available on-site.	SUB PL DL	N/A	Implement worker environmental training program with described material prior to and throughout construction.	All workers have received adequate training for their positions.	PG&E CPUC	PPP DOC REV	**I. Prior to Construction:** *The Key Staff Environmental Training was completed on 01/15/14; a morning kick-off tailboard training will take place for all new crews mobilizing to the site throughout construction, prior to the start of work.* **II. During Construction:** *The Lead Environmental Inspector (EI) or EI on site will provide the Project-specific environmental training and associated handouts to all new Project personnel mobilizing to the site after the start of construction.* (Ongoing)
APM Bio-7: In accordance with the monitoring requirements in AMMs 15 and 17 of the HCP, a biological monitor will be onsite during ground disturbing activities with the potential to disturb habitat near flagged exclusion and restricted activity zones in order to minimize impacts to salamanders. Before the start of work each morning, the biological monitor will check under all equipment and stored supplies left in the work area overnight within 600 feet of suitable habitat for listed species with a potential to occur in the area. The monitor will have the authority to stop work or determine alternative work practices in consultation with agencies and construction personnel, as appropriate, if construction activities are likely to impact sensitive biological resources. The biological monitor will document monitoring activities in a daily log summarizing construction activities and environmental compliance.	SUB PL	Adjacent to salamander habitat and project work areas within 600 feet of suitable habitat for listed species with a potential to occur in the area (described in the IS/MND)	Before the start of work each morning, perform biological inspection ("clearance") under all equipment and materials stored overnight. Monitor ground-disturbing activities near sensitive Salamander habitat. Stop work if construction is likely to impact a sensitive biological resource.	Biological monitor is present during ground-disturbing activities, and biological clearances are conducted.	PG&E CPUC	MON REP MON REP	**II. During Construction:** *Potential salamander habitat will be identified and flagged within 30 days prior to the start of work in each section/phase of the Project. All equipment and materials staged onsite overnight within 600 feet of identified potential salamander habitat will be inspected each morning prior to the start of work. Ground-disturbing activity with the potential to impact potential habitat will be monitored by a biologist.* (Ongoing)

Table B-1: Mitigation Monitoring Program Table

Project EPMs (APMs, AMMs, and MMs)	Work Phase[A]	Location	Interpretation and Implementation Approach	Effectiveness Criterion	Responsible Parties	Required Actions[B]	Implementation Period and Status
APM Bio-8: All work will be done in a manner that minimizes disturbance to wildlife and habitat.	SUB PL DL	All work areas	Minimize impacts to wildlife and habitat.	Impacts reduced as possible.	PG&E CPUC	MON MON	**II. During Construction:** *Work will be conducted in such a way that minimizes the total Project footprint where feasible. The contractor will be made aware of approved workspace boundaries and encouraged to use the minimum necessary to safely complete work during all phases of the Project.* (Ongoing)
APM Bio-9: All food waste and associated containers will be disposed of in closed lid containers.	SUB PL DL	All work areas	Store trash in closed lid containers and remove from the site regularly.	Trash disposed of as described.	PG&E CPUC	MON MON	**II. During Construction:** *Requirements pertaining to trash containment were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Implementation of proper containment and regular clean-up efforts will be confirmed in the field throughout construction.* (Ongoing)

APM Bio-11: Proper spill prevention and cleanup equipment shall be readily available.	SUB PL DL	All work areas	Retain spill kits with each crew or in each work area.	Spill kits are available.	PG&E CPUC	MON MON	**II. During Construction:** *Requirements pertaining to spill prevention, response, and clean-up will be stated in the Key Staff Environmental Training and at all subsequent trainings for new Project personnel. PG&E Inspectors and crew foremen will be responsible for maintaining and replacing spill response kits, as needed.* (Ongoing)
APM Bio-12: Where work on pavement, existing roads, and existing disturbed areas is not practicable, worker vehicles and construction equipment shall remain on identified access routes~~,~~ and designated areas for construction. If additional areas are required, a biologist will survey the new area, identify any sensitive biological resource, and flag that resource for avoidance.	SUB PL DL	All work areas	Keep equipment and vehicles within approved areas. Conduct surveys for any additional workspaces (refer to the MMCRP for workspace changes).	Equipment and vehicles located within approved areas.	PG&E CPUC	SURV* DOC* MON REV* MON	**II. During Construction:** *Work will be conducted in such a way that minimizes the total Project footprint where feasible. Details regarding the required process for requesting and receiving approval for Project changes were reviewed in the Key Staff Environmental Training (01/15/14). The Lead EI or EI on site will work with the crew(s) on a daily basis to ensure that approved workspace boundaries are observed. Schedule forecasting will be used as a tool to anticipate any Project changes that may be needed. No new workspaces will be used until the appropriate approvals have been received and surveys completed.* (Ongoing as needed)
APM Bio-13: No pets or firearms are permitted within the project area.	SUB PL DL	All work areas	No pets or firearms.	No pets or firearms are on site.	PG&E CPUC	MON MON	**II. During Construction:** *The prohibition of firearms and pets on the Project site were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Adherence to this requirement will be confirmed in the field throughout construction.* (Ongoing)
APM Bio-14: Sensitive areas will be clearly flagged or marked. Sensitive areas will be avoided during construction unless the necessary agency permits and/or approvals have been obtained.	PL DL	Sensitive areas	Mark sensitive areas for avoidance until agency approved access is granted.	Sensitive areas are marked and avoided, unless permits have been obtained.	PG&E CPUC	MON REP MON REP	**I. Prior to Construction:** *ESA flagging and signs, as well as any necessary workspace delineation, will be installed within a week prior to the start of work in each section/phase of the Project.* (Ongoing; has occurred prior to all work around ESAs) **II. During Construction:** *All flagging, signs, and boundary delineation used for the delineation of approved workspaces, access roads, and/or exclusion zones will be maintained and replaced on an as-needed basis throughout construction. New/additional signs and flagging will be installed as needed when construction progresses from one*

							section/phase of the Project to another. (Ongoing as needed)
APM Bio-18: All pole holes will be backfilled or covered at the end of the work day by a method that would restrict any wildlife from entering the hole from the surface, and to prevent human injury.	SUB PL	Around all pole holes	At the end of the work day, cover holes to prevent any wildlife from entering the whole, or causing human injury.	Holes are adequately covered.	PG&E CPUC	MON REP MON REP	**II. During Construction:** *Pole holes and other similar-sized excavations that will be left overnight will be covered in such a way as to exclude wildlife from inadvertently falling in and becoming trapped. Larger excavations, such as trenches, which will be left overnight, will be ramped at one or both ends to allow for wildlife escape.* (Ongoing when excavations incomplete overnight)
APM Bio-19: PG&E will consider the location of seasonal wetlands in the design of the power line. No power line poles will be placed in seasonal wetlands. Prior to construction the perimeter of the seasonal wetland near project construction will be flagged for avoidance.	PL	Seasonal wetlands	Avoid seasonal wetlands.	Poles and work areas avoid seasonal wetlands.	PG&E CPUC	DOC MON REP REV MON REP	**I. Prior to Construction:** *The Project has been designed to avoid the placement of any new structures within a wetland (MPM #1). ESA flagging and signs, as well as any necessary workspace delineation, will be installed within a week prior to the start of work in each section/phase of the Project.* (Complete for footing work; ongoing for other components) **II. During Construction:** *All flagging, signs, and boundary delineation used for the delineation of approved workspaces, access roads, and/or exclusion zones will be maintained and replaced on an as-needed basis throughout construction. New/additional signs and flagging will be installed as needed when construction progresses from one section/phase of the Project to another.* (Ongoing)

Table B-1: Mitigation Monitoring Program Table

Project EPMs (APMs, AMMs, and MMs)	Work Phase[A]	Location	Interpretation and Implementation Approach	Effectiveness Criterion	Responsible Parties	Required Actions[B]	Implementation Period and Status
APM Bio-20: Suitable habitat areas (i.e., seasonal wetlands, ponds, and canals) within the project area will be identified during preconstruction surveys. These areas will be mapped and clearly marked in the field, and will be avoided during construction.	PL DL	Water features	Survey, map, and avoid all water features.	Water features surveyed by a qualified biologist have been mapped and avoided.	PG&E	SURV DOC MON REP	**I. Prior to Construction:** *Suitable habitat areas within the Project survey corridor will be identified and flagged for avoidance within 30 days prior to the start of work in each section/phase of the Project. Water features within the survey area will be documented and mapped. ESA flagging and signs, as well as any necessary workspace delineation, will be installed within a week prior to the start of work in each section/phase of the Project.* (Completed prior to construction and updated as needed) **II. During Construction:** *All flagging, signs, and boundary delineation used for the delineation of approved workspaces, access roads, and/or exclusion zones will be maintained and replaced on an as-needed basis throughout construction. New/additional signs and flagging will be installed as needed when construction progresses from one section/phase of the Project to another.* (Ongoing)
					CPUC	REV MON REP	
APM Bio-22: Additional conservation measures and/or mitigation recommended by the USFWS and CDFG through consultation for the California tiger salamander will be incorporated into the project. Any APMs that conflict with permits issued by the USFWS and/or CDFG will be superseded by those resource agency permit requirements.	PL	N/A (see AMMs below)	HCP amended to include coverage for California tiger salamander.	HCP implementation (see AMMs below)	PG&E	PPP* DOC MON REP	**I. Prior to Construction:** *PG&E provided notification that the HCP was amended to include State take authorization for California tiger salamander for work conducted on the project power and distribution lines. No additional measures will be implemented.* (Complete) **II. During Construction:** *N/A (see AMMs below)*
					CPUC	REV MON REP	

APM Bio-24: Avian Power Line Interaction Committee Guidelines in accordance with the Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006[1] will be incorporated into the power line design to minimize the likelihood of avian electrocutions.	PL	Power line locations	Incorporate avian protection standards into the power line design.	Avian protection standards incorporated.	PG&E CPUC	DOC REV	**I. Prior to Construction:** *Requirements for power line design will be communicated to the contractor during bidding. PG&E Inspectors will confirm that the new power line adheres to standards detailed in the* Avian Power Line Interaction Committee Guidelines and the Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006. (Complete)
APM Bio-25: To the extent that the terms of these APMs conflict with subsequently negotiated terms and conditions of any state and/or federal environmental permit, the subsequent permit conditions will supersede the terms of these APMs.	SUB PL DL	N/A	Permit conditions are proposed to supersede project APMs.	APMs and permit conditions implemented.	PG&E CPUC	PPP* DOC* REV*	**I. Prior to Construction:** *There are no conflicts among avoidance and minimization measures prescribed for the Project at this time.* (Complete)
AMM 1: Employees and contractors performing O&M activities 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 O&M activities.	PL	N/A	Prepare training program and provide environmental worker training.	Workers have received environmental training.	PG&E CPUC	DOC MON REP REV MON REP	**I. Prior to Construction:** *The Key Staff Environmental Training was completed on 01/15/14; a morning kick-off tailboard training will take place for all new crews mobilizing to the site throughout construction, prior to the start of work.* (Complete/Ongoing) **II. During Construction:** *The Lead EI or EI on-site will provide the Project-specific environmental training and associated handouts to all new Project personnel mobilizing to the site after the start of construction.* (Ongoing)
AMM 2: Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable.	PL	Power line work areas	Park on paved surfaces as practicable.	Previously disturbed areas used for parking, and new disturbance minimized.	PG&E CPUC	MON MON	**II. During Construction:** *Work will be conducted in such a way that minimizes the total Project footprint where feasible. The Lead EI will work with crews to site staging areas on pavement or previously disturbed areas to the extent practicable.* (Ongoing)
AMM 3: The development of new access and ROW roads by PG&E will be minimized, and clearing vegetation and blading for temporary vehicle access will be avoided to the extent practicable.	PL	Power line work areas	Minimize the development of new roads.	New roads minimized. Vegetation clearing avoided as possible.	PG&E CPUC	MON MON	**II. During Construction:** *Work will be conducted in such a way that minimizes the total Project footprint where feasible. Where possible, existing access roads will be utilized and impacts to native vegetation will be avoided.* (Completed during footing work, but ongoing)

[1] Avian Power Line Interaction Committee. 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, DC, and Sacramento, California.

Table B-1: Mitigation Monitoring Program Table

Project EPMs (APMs, AMMs, and MMs)	Work Phase[A]	Location	Interpretation and Implementation Approach	Effectiveness Criterion	Responsible Parties	Required Actions[B]	Implementation Period and Status
AMM 4: Vehicles will not exceed a speed limit of 15 mph in the ROWs or on unpaved roads within sensitive land-cover types.	PL	Power line work areas	Remain on approved roads and follow 15 mph speed limit on unpaved surfaces.	Vehicle speeds do not exceed 15 mph.	PG&E CPUC	MON MON	**II. During Construction:** *Adherence to Project speed limits on unpaved roads will be confirmed in the field throughout construction. Where possible, existing access roads will be utilized and impacts to native vegetation will be avoided.* (Ongoing)
AMM 5: Trash dumping, firearms, open fires (such as barbecues) not required by the O&M activity, hunting, and pets (except for safety in remote locations) will be prohibited in O&M work activity sites.	PL	Power line work areas	Prohibit dumping, firearms, open fires, hunting, and pets.	Work activity sites free of dumping, firearms, open fires, hunting, and pets.	PG&E CPUC	MON MON	**II. During Construction:** *The prohibition of firearms, pets, and unnecessary open fires on the Project site was reviewed at the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Adherence to this requirement will be confirmed in the field throughout construction.* (Ongoing)
AMM 6: No vehicles will be refueled within 100 feet of a wetland, stream, or other waterway unless a bermed and lined refueling area is constructed.	PL	Power line alignment	Refuel only over secondary containment within 100 feet of a water feature.	Secondary containment used if refueling occurs within 100 feet of water feature.	PG&E CPUC	MON MON	**II. During Construction:** *The Lead EI will work with crews to site staging and refueling areas on pavement or previously disturbed areas to the extent practicable. ESA flagging and signs will be installed and maintained to delineate aquatic features and associated setbacks for refueling.* (Ongoing)
AMM 7: During any reconstruction of existing overhead electric facilities in areas with a high risk of wildlife electrocution (e.g., nut/fruit orchards, riparian corridors, areas along canal or creek banks, PG&E's raptor concentration zone [RCZ]), PG&E will use insulated jumper wires and bird/animal guards for equipment insulator bushings or will construct lines to conform to the latest revision of PG&E's Bird and Wildlife Protection Standards.	PL	Overhead power line	Conform power line design to latest revision of PG&E's Bird and Wildlife Protection Standards, or install bird/animal guards in sensitive habitat.	Power line design conforms to latest revision of PG&E's Bird and Wildlife Protection Standards, or bird/animal guards installed in sensitive habitat.	PG&E CPUC	DOC REV	**II. During Construction:** *Requirements for power line design will be communicated to the contractor during bidding. PG&E Inspectors will confirm that the new power line adheres to standards detailed in the latest revision of* PG&E's Bird and Wildlife Protection Standards, *or install bird/animal guards in sensitive habitat.* (Design complete/ongoing)
AMM 9: Erosion control measures will be implemented where necessary to reduce erosion and sedimentation in wetlands, waters of the United States, and waters of the state, and habitat occupied by covered animal and plant species when O&M activities are the source of potential erosion problems.	PL	Power line work areas	Implement erosion controls to prevent sedimentation in wetlands, waters of the US, and waters of the state.	Sediment discharges prevented through use of erosion control BMPs.	PG&E CPUC	MON REP MON REP	**II. During Construction:** *Erosion, sediment, pollutant, and stormwater control requirements were reviewed at the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. PG&E Inspectors will ensure that daily visual inspections of BMPs are conducted by the construction crew(s). The QSP/SWPPP Inspector will conduct site inspections as prescribed in the SWPPP and implement BMP maintenance as needed throughout*

							construction. (Ongoing as needed)
AMM 10: If an activity disturbs more than 0.25 acre in a grassland, and the landowner approves or it is within PG&E rights and standard practices, the area should be returned to pre-existing conditions and broadcast-seeded using a commercial seed mix. Seed mixtures/straw used for erosion control on projects of all sizes within grasslands will be certified weed-free. PG&E shall not broadcast (or apply in other manner) any commercial seed or seed-mix to disturbance sites within other natural land-cover types, within any vernal pool community, or within occupied habitat for any plant covered species.	PL	Disturbed grassland work areas greater than 0.25 acre	Determine if disturbed grassland areas are greater than 0.25 acre. Restore such disturbed areas to pre-existing conditions with weed-free seed mix and erosion controls	Disturbed grassland greater than 0.25 acre restored.	PG&E CPUC	DOC MON* REV MON*	**III. Post-Construction:** *Post-construction site stabilization and revegetation activities will be initiated following the completion of work. As appropriate and feasible, site stabilization and reseeding efforts will be implemented in discrete portions of the total Project area where work has been completed.* (Not yet applicable)
AMM 12: If a covered plant species is present, 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 O&M activities[2]. (Note: AMM 11 addresses elderberry plants and valley elderberry longhorn beetle.)	PL*	100 feet around special-status plant occupied habitat	Determine if special-status plants are present. Stake and flag 100-foot exclusion zone around occupied special-status plant habitat.	Exclusion zones around special-status plant habitat avoided.	PG&E CPUC	DOC MON* REP* REV MON* REP*	**I. Prior to Construction:** *Appropriately-timed spring botanical surveys for potentially occurring special-status plants were conducted in 2014 (March – June) by a qualified botanist. ESA flagging and signs around any special-status plant populations will be installed within a week prior to the start of work in each section/phase of the Project. Botanical surveys followed CDFW's* Protocols for Surveying and Evaluating Impacts to Special Status Plant Populations and Natural Communities. (Complete) **II. During Construction:** *All flagging, signs, and boundary delineation used for the delineation of approved workspaces, access roads, and/or exclusion zones in the vicinity of special-status plant populations will be maintained and replaced on an as-needed basis throughout construction. New/additional signs and flagging will be installed as needed when construction progresses from one section/phase of the Project to another.* (Occurred during initial activity)

[2] 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). Measures are practicable where physically possible and not conflicting with other regulatory obligations or safety considerations; O&M 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 O&M activities near flagged exclusion and restricted activity zones. Within 60 days after O&M activities have been completed at a given worksite, all staking and flagging will be removed.

AMM 13: If a covered annual plant species is present, O&M activities will occur after plant senescence and prior to the first significant rain to the extent practicable.	PL*	Where special-status annual plants are present	Avoid impacting special-status annual plants before they reach an advanced state and prior to the first rain.	Special-status annual plants avoided during sensitive periods.	PG&E CPUC	DOC MON* REP* REV MON* REP*	**II. During Construction:** *The Lead EI will work with construction crew(s) on a regular basis to generate updated schedule forecasts for the purpose of planning work near sensitive habitat and special-status plant populations during the appropriate season in order to minimize impacts to special status plants.* (Ongoing)
AMM 14: If a covered plant species is present, the upper 4 inches of topsoil will be stockpiled separately during excavations. When this topsoil is replaced, compaction will be minimized to the extent consistent with utility standards. (This measure will be used as an AMM for narrow endemic plants only after approval by USFWS and DFG during the Confer Process.)	PL*	Where special-status plants are present	Determine if there are special-status plant species in work areas. Collect topsoil where excavations occur in special-status plant habitat, stockpile separately, and replace once work is completed. Impacts to narrow endemic plants require USFWS and CDFW approval.	Topsoil containing special-status plant seeds returned to excavated areas.	PG&E CPUC	DOC MON* REP* REV MON* REP*	**I. Prior to Construction:** *Appropriately-timed spring botanical surveys for potentially occurring special-status plants were conducted in 2014 (March – June) by a qualified botanist. Any special-status plant populations will be flagged for avoidance and/or topsoil salvage, as appropriate. Correspondence with USFWS and/or CDFW will occur as needed upon discovery of any narrow endemic plant species within the survey area. Botanical surveys followed CDFW's* Protocols for Surveying and Evaluating Impacts to Special Status Plant Populations and Natural Communities. (Complete) **II. During Construction:** *All flagging, signs, and boundary delineation used for the delineation of approved workspaces, access roads, and/or exclusion zones in the vicinity of special-status plant populations will be maintained and replaced on an as-needed basis throughout construction. New/additional signs and flagging will be installed as needed when construction progresses from one section/phase of the Project to another.* (Complete during initial work; ongoing)

AMM 15: If vernal pools are present, a qualified biologist will stake and flag an exclusion zone prior to O&M activities. The exclusion zone will encompass 250 feet[2]. Work will be avoided after the first significant rain until June 1, or until pools remain dry for 72 hours.	PL*	Within 250 feet from vernal pools	Determine if vernal pools are present. Stake and flag exclusion zones around vernal pools until they remain dry for 72 hours.	250-foot exclusion zones around vernal pools avoided when wet.	PG&E CPUC	SURV MON* REP* REV MON* REP*	**I. Prior to Construction:** *Vernal pools and other aquatic features within the Project survey corridor will be identified and flagged for avoidance within 30 days prior to the start of work in each section/phase of the Project.* (Complete) **II. During Construction:** *All flagging, signs, and boundary delineation used for the delineation of approved workspaces, access roads, and/or exclusion zones will be maintained and replaced on an as-needed basis throughout construction. New/additional signs and flagging will be installed as needed when construction progresses from one section/phase of the Project to another.* (Ongoing as needed)
AMM 17: If suitable habitat for covered amphibians and reptiles is present and protocol-level surveys have not been conducted, a qualified biologist will conduct preconstruction surveys prior to O&M activities involving excavation. If necessary, barrier fencing will be constructed around the work site to prevent reentry by the covered amphibians and reptiles. A qualified biologist will stake and flag an exclusion zone of 50 feet around the potentially occupied habitat[2]. 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) are moved to nearby suitable habitat.	SUB*[3] PL*	Suitable habitat for special-status reptiles and amphibians	Conduct survey for special-status reptiles and amphibians, as needed. Erect barrier fencing necessary to prevent entry of special-status reptiles and amphibians to work sites. Inspect trenches left open for more than 24 hours.	Surveys completed by qualified biologist. Necessary protection fencing used and excavations inspected.	PG&E CPUC	SURV* DOC MON* REP* REV MON* REP*	**I. Prior to Construction:** *Preconstruction surveys for suitable habitat within the Project survey corridor will be completed by a qualified biologist within 30 days prior to the start of work in each section/ phase of the Project. A 50-foot exclusion zone around potential habitat areas will be flagged for avoidance and, if necessary, barrier fencing will be erected around workspaces to exclude covered amphibians and reptiles.* (Completed during HCP pre-activity surveys) **II. During Construction:** *All excavations left open overnight will be inspected for trapped or hiding wildlife prior to the start of work each morning. All flagging, signs, and boundary delineation used for the delineation of approved workspaces, access roads, and/or exclusion zones will be maintained and replaced on an as-needed basis throughout construction. New/additional signs and flagging will be installed as needed when construction progresses from one section/phase of the Project to another.* (Ongoing) **III. Upon Completion of Construction:** *All flagging, signs, and barrier fencing*

[3] PG&E committed to implement AMM 17 for work associated with construction of the substation on April 06, 2012 through consultation with USFWS and CDFW. PG&E is not exempt from not be exempt from Section 9 prohibitions against take of listed species for the substation construction. PG&E has elected to implement monitoring and or exclusion fencing, as needed, to reduce any risk for impacting listed species.

							will be removed from the Project site upon completion of work. (Completed during phased work segments)

Table B-1: Mitigation Monitoring Program Table

Project EPMs (APMs, AMMs, and MMs)	Work Phase[A]	Location	Interpretation and Implementation Approach	Effectiveness Criterion	Responsible Parties	Required Actions[B]	Implementation Period and Status
AMM 18: 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.	PL*	Within 160/250 feet from occupied burrowing owl burrows	Conduct survey for burrowing owls. Developed 160/250-foot exclusion zone around occupied burrows. Qualified biologist shall prepare a site-specific plan to address work within exclusion zones.	Surveys completed by qualified biologist. Exclusion zones used or site-specific plan implemented.	PG&E CPUC	SURV MON* REP* REV MON* REP*	**I. Prior to Construction:** *Preconstruction surveys for burrowing owls will be completed by a qualified biologist within 30 days prior to the start of work in each section/ phase of the Project. A 160/250-foot exclusion zone (wintering/breeding season) around occupied burrows will be flagged for avoidance if feasible. If prescribed exclusion zones cannot be maintained, then a qualified biologist will prepare a site-specific plan for addressing work within burrowing owl exclusion zones.* (Ongoing as needed prior to activity) **II. During Construction:** *Surveys for burrowing owls will be updated in support of construction activities throughout the construction phase in each section/phase of the Project.* (Ongoing as needed)
AMM 19: If a Swainson's hawk nest or white-tailed kite nest is known to be within 0.25 mile of a planned worksite, a qualified biologist will evaluate the effects of the planned O&M activity. If the biologist determines that the activity would disrupt nesting, a buffer and limited operation period (LOP) during the nesting season (March 15–June 30) will be implemented. Evaluations will be performed in consultation with the local DFG representative.	PL* DL*	Within 0.25 mile of the project alignment	A qualified biologist shall determine if there are any known Swainson's hawk or white-tailed kite nests within 0.25 mile of the project alignment. If nests are determined to be present, PG&E shall develop buffers in consultation with CDFW to avoid disturbance to either species.	Review by a qualified biologist for nests within 0.25 mile and consultation with CDFW if nests are present.	PG&E CPUC	SURV* MON* REP* REV* MON* REP*	**I. Prior to Construction:** *Preconstruction surveys for Swainson's hawk and white-tailed kite nests will be completed by a qualified biologist within 30 days prior to the start of work in each section/ phase of the Project. If nests are found within 0.25 mile of the Project site, PG&E's biologist will initiate consultation with CDFW to determine how to avoid disturbance to either species.* (Complete) **II. During Construction:** *Surveys will be updated as needed during construction. Work in the vicinity of any discovered nests will be monitored for potential impacts to the species or their nests.* (Ongoing during season)

AMM 21: If San Joaquin kit fox 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 (U.S. Fish and Wildlife Service 1999). Exclusion zones will be implemented following USFWS procedures (U.S. Fish and Wildlife Service 1999) or the latest USFWS procedures. The radius of these zones will follow current standards or will be as follows: Potential Den—50 feet; Known Den—100 feet; Natal or Pupping Den—to be determined on a case-by-case basis in coordination with USFWS and DFG. Pipes will be capped and exit ramps will also be installed in these areas to avoid direct mortality.	PL*	Within 50/100 feet from occupied kit fox dens	Conduct survey for kit fox dens. Implement USFWS procedures when removing kit fox dens and delineating exclusion zones. Consult with USFWS and CDFW regarding pupping dens.	Surveys completed by qualified biologist. Exclusion zones or dismantling practices used with USFWS and CDFW approval.	PG&E CPUC	SURV MON* REP* REV MON* REP*	**I. Prior to Construction:** *Preconstruction surveys for San Joaquin kit fox (SJKF) will be completed by a qualified biologist within 30 days prior to the start of work in each section/ phase of the Project. Where possible, an exclusion zone around SJKF dens will be flagged for avoidance following USFWS guidelines. If dens cannot be avoided, den destruction will be carried out according to USFWS protocols by a qualified biologist.* (Complete for previous segments) **II. During Construction:** *Surveys will be updated as needed during construction. Newly discovered SJKF dens during the construction phase (e.g., if a den becomes occupied by a fox during construction) will be flagged for avoidance where feasible, or destroyed according to USFWS protocols by a qualified biologist.* (Ongoing)
AMM 22: All vegetation management activities will implement the nest protection program to avoid and minimize effects on Swainson's hawk, white-tailed kite, golden eagle, bald eagle, and other nesting birds. Additionally, trained pre-inspectors will use current data from DFG and CNDDB and professional judgment to determine whether active Swainson's hawk, golden eagle, or bald eagle nests are located near proposed work. If pre-inspectors identify an active nest near a proposed work area, they will prescribe measures to avoid nest abandonment and other adverse effects to these species, including working the line another time of year, maintaining a 500-foot setback, or if the line is in need of emergency pruning, contacting the HCP Administrator.	PL*	Within approximately 500 feet of active nest locations	A qualified biologist shall conduct surveys and use CDFW and CNDDB data to determine potential active nest locations in work areas. Avoid disturbance to active special-status raptors and other nesting birds during vegetation clearing.	Minimization methods used for nests during vegetation clearing.	PG&E CPUC	SURV DOC MON* REP* REV MON* REP*	**I. Prior to Construction:** *A search of CNDDB records was completed in November 2013 and again in January 2014 to determine what occurrences of sensitive raptors have been documented in the project vicinity. Preconstruction surveys for nesting birds will and raptor nests will be completed by a qualified biologist in advance of vegetation management activities. For any nests that may be impacted by vegetation management activities, avoidance measures will be prescribed by the biologist, if feasible (e.g., rescheduling work to another time of year, establishing 500-foot exclusion zone). The HCP administrator will be contacted if avoidance is not feasible.* (Complete for T-Line footings segment) **II. During Construction:** *New/updated nest surveys will be completed in advance of any vegetation management activities planned during construction.* (Ongoing)
AMM 29: No herbicide will be applied within 100 feet of exclusion zones, except when applied to cut stumps or frilled stems or injected into stems.	PL	100 feet from any exclusion zones	Do not use herbicides within 100 feet of exclusion zones.	Herbicides not used in close proximity to exclusion zones.	PG&E CPUC	MON MON	**II. During Construction:** *Crews will be made aware of the restrictions on herbicide use on the Project site. Adherence to this requirement will be confirmed in the field throughout construction. All exclusion zones will be clearly marked or delineated in the field.* (None

							proposed for use ongoing)
AMM 30: Trees being felled in the vicinity of an exclusion zone will be directionally felled away from the zone, where possible. If this is not feasible, the tree will be removed in sections.	PL	Adjacent to exclusion zones	Fell trees away from exclusion zones.	Exclusion zones protected during tree removal.	PG&E CPUC	MON MON	**II. During Construction:** *Crews will be made aware of the requirement for properly felling trees in the vicinity of exclusion zones. Adherence to this requirement will be confirmed in the field throughout construction. All exclusion zones will be clearly marked or delineated in the field.* (Ongoing)

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Project EPMs (APMs, AMMs, and MMs)	Work Phase[A]	Location	Interpretation and Implementation Approach	Effectiveness Criterion	Responsible Parties	Required Actions[B]	Implementation Period and Status
MM Biology-1: PG&E shall conduct a pre-activity survey of those portions of the project that occur within native or naturalized areas (the project route from Perrin Avenue to Shepherd Avenue). The survey will be conducted following the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (November 24, 2009). The width of the pre-activity survey will be 200 feet on the westerly side of the new power line and to the extent of PG&E's right-of-way on the easterly side. The survey will consist of walking parallel transects spaced approximately 50 feet apart to provide 100 percent visual coverage of the construction site and adjacent lands. The surveyors will map the location of all sensitive plants identified during the survey on drawings of the project site, noting the distance to construction areas, access roads, and laydown areas. If sensitive plant species are present, AMM-12, AMM-13, and AMM-14, shall be implemented.	PL	Within 200 feet on the westerly side of the new power line and to the extent of PG&E's right-of-way on the easterly side from Perrin Ave to E. Copper Ave.	Survey for special-status plants using the 2009 protocols in the described survey area. Map the locations of any sensitive plants identified during the survey and their proximity to construction work areas, including roads.	Surveys completed by qualified botanist. If present, see AMMs 12, 13, and 14.	PG&E CPUC	SURV DOC REV	**I. Prior to Construction:** *Appropriately-timed spring botanical surveys for potentially occurring special-status plants were conducted in 2014 (March – June) by a qualified botanist. Any special-status plant populations documented during the surveys will be recorded with GPS coordinates and mapped. Botanical surveys followed CDFW's* Protocols for Surveying and Evaluating Impacts to Special Status Plant Populations and Natural Communities. (Complete) **II. During Construction:** *Impacts to special-status plant populations will be avoided to the extent feasible. AMM 12 – 14 will be implemented for any special-status plants discovered within the survey area.* (Completed for all previous work, planned to occur for installation)
MM Biology-2: A pre-activity survey for Molestan blister beetle shall be conducted by a qualified biologist within 30 days prior to the start of ground-disturbing construction activities. The width of the pre-activity survey will be to the extent of the power line easement and predetermined access routes that may fall outside of the easement area within suitable habitat (grasslands). If Molestan blister beetles are encountered, the biologist shall flag an exclusion zone of 25 feet around the potentially occupied habitat. If a smaller exclusion zone is required, the exclusion zone diameter will be determined by the project biologist based on field conditions and construction activities. The exclusion zone shall be subject to review by CPUC.	PL*	Grasslands in the project right-of-way	Conduct Molestan blister beetles survey in grassland within 30 days prior to ground disturbing activities. If present, establish 25-foot exclusion zones, as determined by the project biologist and approved by CPUC.	Survey for Molestan blister beetle conducted within 30 days prior to start of ground-disturbing construction activities in grassland areas by qualified biologist. Exclusion zones in place.	PG&E CPUC	SURV DOC* MON* REP* REV MON* REP*	**I. Prior to Construction:** *Preconstruction surveys for Molestan blister beetle will be completed within 30 days prior to the start of construction in each section/phase of the Project that occurs in grassland habitat. If beetles are determined to be present, 25-foot exclusion zones will be flagged in the field.* (Complete for T-Line) **II. During Construction:** *Flagging, signs, and boundary delineation used to establish exclusion zones will be maintained and replaced on an as-needed basis throughout construction.*

							New/additional signs and flagging will be installed as needed when construction progresses from one section/phase of the Project to another. (Ongoing as needed)
MM Biology-3: Within 30 days of construction, a qualified biologist shall conduct a pre-activity survey within the suitable habitat for burrowing owl to determine this species' presence or absence. The width of the pre-activity survey will be 500 feet on the westerly side of the new power line, and to the extent of PG&E's right-of-way on the easterly side. The survey will consist of walking parallel transects spaced approximately 100 feet apart to provide 100 percent visual coverage of the construction site and adjacent lands. If western burrowing owls are present at the site, AMM-18 shall be implemented.	PL	Within 500 feet on the westerly side of the new power line, and to the extent of PG&E's right-of-way on the easterly side	Conduct burrowing owl surveys in survey area within 30 days of construction. If present implement AMM 18.	Survey by qualified biologist for burrowing owls conducted within 30 days of construction. If present, see AMM 18.	PG&E CPUC	SURV REV	**I. Prior to Construction:** *Preconstruction surveys for burrowing owl will be completed within 30 days prior to the start of construction in each section/phase of the Project. If determined to be present, AMM-18 will be implemented.* (Completed for T-line and substation) **II. During Construction:** *AMM-18 will be implemented to avoid and/or minimize potential impacts to burrowing owls.* (Ongoing)
MM Biology-4 (proposed to supersede APM Bio-23): If construction is to occur during the avian nesting season (February 1 through September 15), a preconstruction survey for migratory birds shall be conducted by a qualified wildlife biologist within 30 days prior to the start of ground-disturbing construction activities and prior to the start of construction in any new work area. The width of the pre-activity survey for raptor nests will be in vegetation within 500 feet on the westerly side of the new power line alignment and up to 500 feet on the easterly side of the alignment, where access is available. At a minimum, the survey will be to the extent of PG&E's right-of-way on the easterly side. For smaller avian species, the maximum width of the survey will be in vegetation 250 feet on the westerly side of the new power line alignment and up to 250 feet on the easterly side of the alignment where access is available. At a minimum, the survey will be to the extent of PG&E's right-of-way on the easterly side. The results of the survey shall be reported to the CPUC prior to construction. If active nests are found, appropriate buffers between construction activities and the nest will be established to ensure nests are not abandoned due to project activities. The State of California Department of Fish and Game (CDFG) recommended buffers are 250 feet for passerines and 500 feet for non-listed raptors. No additional measures will be implemented if active nests are outside of these distances from the nearest work site. The specified buffer size may be reduced on a case-by-case basis if, based on compelling biological or ecological reasoning (e.g. the biology of the bird species, concealment of the nest site by topography, land use type, vegetation, and level of project activity) and as determined by qualified wildlife biologist, that implementation of a specified smaller buffer distance will still avoid project-related "take" (as defined by Fish and Game Code Section 86) of adults, juveniles, chicks, or eggs associated with a particular nest. Any variance from CDFG-recommended buffers will be logged in a written report that includes the species, location, reason for the buffer reduction, the name and contact information of the qualified wildlife biologist(s) who authorized the buffer reduction and conducted subsequent monitoring, the reduced avoidance buffer size, duration of buffer reduction, and outcome to the nest, egg, young, and adults. The report should be submitted to CDFG at the end of each nesting season for the duration of the project. The nests will be monitored on a daily basis when construction activities are within the buffer zones. Monitoring will continue for the duration of the nesting season by a qualified wildlife biologist unless a qualified wildlife biologist has determined that the young have fledged, are no longer dependent upon parental care, or construction ends (whichever occurs first). If the nesting birds show signs of distress with a reduced buffer size during project activities, the qualified wildlife biologist will consult with the resource agencies (CDFG, U.S. Fish and Wildlife Service, etc.) and reinstate the	SUB PL DL	Vegetation within 500 feet on the westerly side of the new power line alignment and up to 500 feet on the easterly side of the alignment, where access is available.	Conduct avian nesting survey within 30 days prior to construction during the bird nesting season, and submit results to the CPUC prior to construction. If nests are present, establish nest exclusion buffers to restrict project activities from causing "take." If buffers are reduced below the CDFW-recommended distances (250 feet for passerines and 500 feet for raptors), the project biologist shall report the nest characteristics and justification. These reports shall be provided to CPUC on a regular basis, and to CDFW on a yearly basis. Active nests within 250/500 feet from active work shall be monitored on a daily basis for signs of disturbance until the young have fledged. If nesting birds show signs of distress, CDFW-recommended exclusion buffers shall be reinstated, unless otherwise approved by CDFW and/or USFWS. If it is determined that there are active special-status avian nests within 0.5 mile of project activities, PG&E will consult with CDFW and/or USFWS.	Preconstruction nest survey completed by qualified biologist. Verify any nests observed during the Buffer exclusion zones used. Established exclusion zones adequate. Buffers expanded to CDFW-recommended distances if birds show signs of distress. Nest locations and buffer establishment reported during nesting season. Required reports provided. Required consultation with CDFW and/or USFWS performed.	PG&E CPUC	SURV DOC MON REP REV MON REP	**I. Prior to Construction:** *Preconstruction surveys for all nesting birds will be conducted during the nesting season within 30 days prior to the start of construction in each section/phase of the Project. A corridor of 500 feet to the west of the Project alignment and up to 500 feet or to the extent of PG&E's ROW on the east will be surveyed by a qualified biologist. If active nests are found, an exclusion zone of 250 feet for passerines and 500 feet for non-listed raptors will be established, if feasible. If needed, the surveying biologist will determine on a case-by-case basis if reductions in exclusion zones can be established which will not result in the Project-related take of a nest.* (Completed for previous work) **II. During Construction:** *If buffers are reduced below the CDFW-recommended distances (250 feet and 500 feet), the project biologist shall report the nest characteristics and justification. These reports shall be provided to CPUC on a regular basis and to CDFW on a yearly basis.* (Near completed for 2014 season)

recommended buffers. (continued below)							

Table B-1: Mitigation Monitoring Program Table							
Project EPMs (APMs, AMMs, and MMs)	**Work Phase[A]**	**Location**	**Interpretation and Implementation Approach**	**Effectiveness Criterion**	**Responsible Parties**	**Required Actions[B]**	**Implementation Period and Status**
(continued) Buffers will not apply to construction-related traffic using existing roads that is not limited to project-specific use (i.e., county roads, highways, farm roads, etc.). Non-listed species found building nests within the standard buffer zone after specific project activities begin shall be assumed tolerant of that specific project activity and the nest will be protected by the maximum buffer practicable. However, these nests should be monitored on a daily basis by a qualified biologist when construction is within the buffer zone for the duration of the nesting season by a qualified wildlife biologist unless the qualified biologist has determined that the young have fledged, are no longer dependent upon parental care, or construction ends (whichever occurs first). Should nesting birds that have moved in during construction show signs of distress within a reduced buffer zone, and that stress is related to construction activities, the qualified wildlife biologist will reinstate the recommended buffers. The recommended buffers will only be reduced after the qualified biologist has determined that the nesting birds are no longer exhibiting signs of stress. Reporting regarding reduction of buffers will be documented in a written report and will follow the procedure described above. If the qualified wildlife biologist determines that there are listed or fully protected species nests within a 0.5-mile radius of project activities, PG&E will consult with the resource agencies to discuss how to implement the project and avoid "take," or if avoidance is not feasible, in the case of state-listed species, to acquire a state ITP prior to initiation or resumption (whichever applies) of any ground-disturbing activities.	*(see above)*	*(see above)*	*(see above)*	*(see above)*	*(see above)*	*(see above)*	*(see above)*

Table B-1: Mitigation Monitoring Program Table							
Project EPMs (APMs, AMMs, and MMs)	**Work Phase[A]**	**Location**	**Interpretation and Implementation Approach**	**Effectiveness Criterion**	**Responsible Parties**	**Required Actions[B]**	**Implementation Period and Status**
MM Biology-5: A preconstruction survey shall be conducted within 30 days of construction to determine the presence or absence of SJKF. This survey shall be	PL*	Within 250 feet of the project	Conduct survey for SJKF dens in survey area within 30 days of	Survey completed by qualified biologist.	PG&E	SURV DOC*	**I. Prior to Construction:** *Preconstruction surveys for SJKF will be*

conducted within suitable habitat and entail inspection of all burrows within 250 feet of the project site or to the extent of PG&E's right-of-way. If potential dens are detected, these dens shall be monitored using tracking medium and/or remote cameras for three nights to determine if SJKF inhabit them. If SJKF are found to be absent from the site the project can move forward with no further consideration of this species. If SJKF are found inhabiting the site or surrounding lands during the survey the measures identified in AMM 21 shall be implemented.		site or to the extent of PG&E's right-of-way	construction. If potential dens are present, dens shall be monitored using tracking cameras for three nights to determine the dens' status. If dens are active, implement AMM 21.	Status of den verified, if present. If active, see AMM 21.	CPUC	REV	*completed by a qualified biologist within 30 days prior to the start of work in each section/ phase of the Project. If an occupied den is discovered, AMM-21 will be implemented.* (Completed) **II. During Construction:** *Updated surveys will be conducted as needed during construction as work progresses from one section/phase of the Project to another. Flagging, signs, and boundary delineation used to establish exclusion zones will be maintained and replaced on an as-needed basis throughout construction.* (Ongoing, no dens thus far)
MM Biology-6: A survey for active dens of American badgers shall be performed by a qualified biologist within 30 days prior to construction grading or land clearing. Surveys shall be conducted within suitable habitat. The width of the pre-activity survey will be 250 feet on either side of the construction area or to the extent of PG&E's right-of-way. Construction may proceed once it is determined that there are no active dens in the survey area. If active dens are present, the dens shall be avoided during the breeding season and a 50-foot buffer around the den sites shall be established. Smaller buffers may be established through consultation with CDFG.	PL*	Within 250 feet of the project site or to the extent of PG&E's right-of-way	Conduct survey for American badger dens within 30 days of construction. If present, establish a 50-foot exclusion zone around dens, or consult with CDFW.	American badger survey conducted within 30 days of construction by qualified biologist. Appropriate buffers implemented, as needed.	PG&E CPUC	SURV MON REP REV MON* REP*	***I. Prior to Construction:*** *Preconstruction surveys for American badgers will be completed by a qualified biologist within 30 days prior to the start of work in each section/ phase of the Project. If active dens are identified within the survey area, an exclusion zone of 50 feet will be established, or consultation with CDFW will be initiated to determine if an appropriate smaller exclusion zone can be established.* (Completed) ***II. During Construction:*** *Updated surveys will be conducted as needed during construction as work progresses from one section/phase of the Project to another. Flagging, signs, and boundary delineation used to establish exclusion zones will be maintained and replaced on an as-needed basis throughout construction. New/additional signs and flagging will be installed as needed when construction progresses from one section/phase of the Project to another.* (Ongoing, no dens thus far)
Cultural Resources							
APM Cult-2: If the applicant revises the location of proposed facilities and ground-disturbing activities that affect areas beyond those surveyed for the PEA, those areas will be subjected to a cultural resources inventory to ensure that any newly identified sites are avoided by ground-disturbing activities.	SUB* PL* DL*	Any new work areas not described in the IS/MND	Conduct additional cultural resource surveys in any new work areas that have not been previously surveyed.	Cultural resources inventory has been conducted for areas not surveyed for the PEA.	PG&E CPUC	SURV* REV*	**I. Prior to Construction:** *Details regarding the required process for requesting and receiving approval for Project changes were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. No new work areas will be utilized until the appropriate approvals have been received and surveys completed.* (Complete)

APM Cult-3: The applicant will minimize or avoid impacts to any potentially significant prehistoric and historic resources that might be discovered during construction by implementing standard protocols that include ceasing all work within 50 feet of the discovery, protecting the discovery from further impacts, and immediately contacting a PG&E Cultural Resources Specialist.	SUB PL DL	All work areas	Implement standard historic resource protection measures and stop work within 50 feet of a discovery.	Potential impacts to undiscovered cultural resources minimized.	PG&E CPUC	MON* REP* MON* REP*	***II. During Construction:*** *All work within 50 feet of a potentially significant historic or prehistoric discovery will be halted and the PG&E Cultural Resources Specialist will be contacted.* (Not needed to date)
APM Cult-4: If human remains are discovered, work in the immediate vicinity will stop immediately and a PG&E Cultural Resources Specialist will be contacted. The location of the discovery will be secured to prevent further impacts and the location will be kept confidential. The Cultural Resources Specialist will evaluate the discovery and will contact the Fresno County Coroner upon verifying that the remains are human. If the coroner determines the remains are Native American, the Native American Heritage Commission (NAHC) shall be contacted and the remains will be left in situ and protected until a decision is made on their final disposition.	SUB PL DL	All work areas	If human remains are found, stop work in the vicinity until the remains can be reported to the proper authorities.	Any discovered human remains reported to proper authorities.	PG&E CPUC	REP* REP*	**II. During Construction:** *All work in the immediate vicinity of potential human remains will be halted and the PG&E Cultural Resources Specialist will be contacted. The site will be secured to avoid further impacts to the discovery.* (Not needed to date)
MM Cultural-1 (proposed to supersede APMs Cult-1 and Pal-1): A qualified Cultural Resources Specialist shall design and implement a Cultural Resources Awareness Program that shall be provided to all project personnel who may encounter unique archaeological properties, historical resources, or paleontological resources, including construction supervisors and field personnel. No construction worker shall be involved in field operations without having participated in the Cultural Resources Awareness Program. The Cultural Resources Awareness Program shall include, at a minimum: • A review of archaeology, history, prehistory, and Native American cultures associated with historical resources in California. • A review of photographs and figures of potential historical resources and unique archaeological properties in California. • A review of applicable local, state, and federal ordinances, laws, and regulations pertaining to cultural resource preservation. • A discussion of procedures to be followed in the event that unanticipated paleontological or cultural resources are discovered during implementation of the project. • A discussion of disciplinary and other actions that could be taken against persons violating historical preservation laws and PG&E policies. • PG&E will require all contractors to comply with the Worker Environmental Awareness Program, PG&E policies, and other applicable laws and regulations as part of their contracts. • Environmental training shall also be provided to workers regarding the protection of paleontological resources and procedures to be implemented in the event fossil remains are encountered during ground-disturbing activities. The Cultural Resources Awareness Program may be conducted in concert with other environmental or safety awareness and education programs for the project. Cultural Resources Awareness Program training materials and/or presentations shall be submitted to CPUC for review and approval prior to the start of training sessions and at least 30 days prior to the start of construction.	SUB PL DL	N/A	Submit a Cultural Resources Awareness Program at least 30 days prior to construction. All workers must receive cultural resources training prior to working on site.	Content of Cultural Resources Awareness Program training materials verified. Construction workers' participation in Cultural Resources Awareness Program verified prior to field operation involvement.	PG&E CPUC	PPP DOC REV	**I. Prior to Construction:** *The Cultural Resources Awareness Program was implemented in association with the Key Staff Environmental Training on 01/15/14. A copy of the program has been provided to and approved by CPUC.* (Complete) **II. During Construction:** *The Lead EI or EI on site will provide the Project-specific environmental training and associated handouts to all new Project personnel mobilizing to the site after the start of construction, including information on cultural and paleontological resources.* (Ongoing)
MM Cultural-2: Prior to construction, a certified paleontologist shall be retained by PG&E to supervise construction excavations and to produce a Paleontological Resource Management Plan (PRMP) for the proposed project. The PRMP shall be prepared and implemented under the direction of the paleontologist, and shall be submitted to CPUC for review and approval at least 30 days prior to construction. Construction activities that require excavation or augering of 5 feet in diameter or greater at depths greater than 5 feet shall be monitored on a part-time or full-time basis by a paleontological construction monitor only in those parts of the project area where these activities will disturb previously undisturbed strata in the Riverbank Formation rock unit. Should monitoring reveal paleontological resources of interest during visual inspection of the exposed rock unit, CPUC shall be immediately notified,	SUB PL	Excavations 5 feet in diameter or greater, or greater than 5 feet in depth	Retain a certified paleontologist to supervise excavations. Submit a PRMP at least 30 days prior to construction prepared by the certified paleontologist.	Content of PRMP verified. Paleontological resources monitoring performed in previously undisturbed strata of the Riverbank Formation rock unit.	PG&E CPUC	PPP MON REP REV MON REP	**I. Prior to Construction:** *Applied EarthWorks has been contracted to provide archaeological and paleontological services required for the Project. The PRMP will be submitted 30 days ahead of construction within the Riverbank Formation (i.e., transmission line).* (Complete)

and microscopic examination of matrix samples shall be conducted to determine if fossils are present.							**II. During Construction:** *A paleontological monitor will be on site for all excavations at least 5 feet in diameter and at least 5 feet deep that occur within previously undisturbed strata of the Riverbank Formation rock unit.*

MM Cultural-3 (proposed to supersede APM Pal-1): In the unlikely event that previously unidentified paleontological resources are uncovered during implementation of the project, CPUC shall be notified immediately and all ground-disturbing work shall be temporarily halted or diverted away from the discovery to another location. PG&E's paleontological resources specialist or his/her designated representative shall inspect the discovery and determine whether further investigation is required. If the discovery is significant, but can be avoided and no further impacts would occur, the resource shall be documented in the appropriate paleontological resource records and no further effort shall be required. If the resource is significant, but cannot be avoided and may be subject to further impact, PG&E shall evaluate the significance of the resources and implement data recovery excavation or other appropriate treatment measures, as approved by the landowner if on third-party property and as verified by CPUC. These measures may include a report prepared in accordance with PG&E, Society of Vertebrate Paleontology guidelines, and CPUC requirements, and/or curation at a recognized museum repository.	SUB PL DL	All work areas	Halt work around discovery of any new paleontological resources and notify the CPUC immediately.	Impacts to paleontological resource discoveries limited and evaluated.	PG&E CPUC	MON MON	**II. During Construction:** *All work in the immediate vicinity of a potentially significant paleontological discovery will be halted and the CPUC will be contacted. The paleontological specialist will determine what, if any, further actions are necessary.* (Complete; no resources identified)

Table B-1: Mitigation Monitoring Program Table

Project EPMs (APMs, AMMs, and MMs)	Work Phase[A]	Location	Interpretation and Implementation Approach	Effectiveness Criterion	Responsible Parties	Required Actions[B]	Implementation Period and Status
Geology and Soils							
APM Geo-1/WQ-1: Erosion and Sediment Control Plan (ESCP) implementation. An ESCP will be prepared in association with the Stormwater Pollution Prevention Plan (SWPPP). This plan will be prepared in accordance with the Water Board guidelines and other applicable Best Management Practices (BMPs). Implementation of the plan will help stabilize disturbed areas and waterways and will reduce erosion and sedimentation. The plan will designate BMPs that will be followed during construction activities. Natural-fiber biodegradable mesh will be used in erosion control mats, blankets, and straw or fiber wattles, where these products are required. Erosion-minimizing efforts may include, but are not limited to, measures such as: 1. Avoiding excessive disturbance of steep slopes. 2. Using drainage control structures (e.g., straw wattles or silt fencing) to direct surface runoff away from disturbed areas. 3. Strictly controlling vehicular traffic. 4. Implementing a dust-control program during construction. 5. Restricting access to sensitive areas. 6. Using vehicle mats in wet areas. 7. Revegetating disturbed areas, where applicable, following construction. In areas where soils are to be temporarily stockpiled, soils will be placed in a controlled area and will be managed with similar erosion control techniques. Where construction activities occur near a surface water body or drainage channel and drainage from these areas flows towards a water body or wetland, stockpiles will be placed at least 100 feet from the water body or will be properly contained (such as berming or covering to minimize risk of sediment transport to the drainage). Mulching or other suitable stabilization measures will be used to protect exposed areas during and after construction activities. Erosion-control measures will be installed, as necessary, before any clearing during the wet season and before the onset of winter rains. Temporary measures, such as silt fences or wattles intended to minimize erosion from temporarily disturbed areas, will remain in place until disturbed areas have stabilized. 8. The SWPPP will be designed specifically for the hydrologic setting of the project. BMPs documented in the ESCP may also be included in the SWPPP.	SUB PL DL	All work areas	Prepare an ESCP in association with the SWPPP. Implement ESCP and SWPPP BMPs to control erosion and sedimentation.	Erosion control and sedimentation BMPs implemented and maintained.	PG&E CPUC	PPP MON REP REV MON REP	**I. Prior to Construction:** *The Project-specific SWPPP/ESCP was completed in November 2013 by Ahtna. The SWPPP was submitted to and approved by the CPUC in December 2013.* *Requirements pertaining to the installation and maintenance of erosion, sediment, stormwater, and pollution controls were reviewed at the Key Staff Environmental Training.* (Complete) **II. During Construction:** *BMPs prescribed in the SWPPP/ESCP will be installed and maintained in support of Project activities. Inspections will be conducted as required by the SWPPP/ESCP by the QSP/SWPPP Inspector.* (Ongoing) **III. Post-Construction:** *Biodegradable BMPs used on site will be left in place following the completion of construction for long-term stability. Other materials will be removed from the Project area.* (Ongoing for tower work completed thus far)

Hazards and Hazardous Materials							
APM Haz-1: Emergency spill response and cleanup kits will be available on site and readily available for the cleanup of any accidental spill. Construction crews will be trained in safe handling and cleanup responsibilities prior to the initiation of construction.	SUB PL DL	All work areas	Retain spill kits and provide worker training. Report any spill and cleanup methods employed.	Spills cleaned safely and adequately.	PG&E CPUC	DOC MON REP* MON REP*	**II. During Construction:** *Requirements pertaining to spill prevention, response, and clean-up were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel.* (Training completed; ongoing)
APM Haz-2: In the event of an accidental spill, the substation is equipped with a retention basin that meets SPCC Guidelines (40 CFR 112). The SPCC basin will be sufficiently sized to accommodate the accidental spill of all mineral oil from the largest transformer located at the substation. The substation will also be equipped with lead-acid batteries to provide backup power for monitoring, alarm, protective relaying, instrumentation and control, and emergency lighting during power outages. Containment will be constructed around and under the battery racks with neutralizing pads.	SUB	Substation	Install Spill Prevention Control Countermeasure (SPCC) basin in substation to contain transformer mineral oil and battery acid.	SPCC basin installed with adequate volume for containment.	PG&E CPUC	DOC REV	**II. During Construction:** *The contractor will be made aware of design requirements for the substation. Requirements pertaining to spill prevention, response, and clean-up were reviewed in the Key Staff Environmental Training and will be stated at all subsequent trainings for new Project personnel.* (Ongoing)
APM Haz-3: A water truck will be available on site during dry conditions, as assessed by the construction foreman, to prevent the ignition or spread of a wildfire. The work site will be sprayed a minimum of three times per day during dry conditions.	SUB PL DL	All work areas	Spray water during dry conditions to reduce fire hazard.	Water used to reduce fire hazards during dry conditions.	PG&E CPUC	MON REP MON REP	**II. During Construction:** *Requirements pertaining to fire safety, prevention, and response were reviewed in the Key Staff Environmental Training (01/15/14) and will be stated at all subsequent trainings for new Project personnel. Compliance with watering requirements will be confirmed in the field during construction.* (Ongoing)
MM Hazards-1: PG&E will submit a Site Safety Plan to the CPUC at least 30 days prior to project construction. The plan will identify ways to minimize the exposure of the public to potentially hazardous materials during all phases of project construction through operation and maintenance. The plan will require appropriate control methods and approved containment and spill-control practices for construction and materials stored on site. All hazardous materials and hazardous wastes will be handled, stored, and disposed of by personnel qualified to handle hazardous materials and in accordance with all applicable regulations. If it is necessary to store any chemicals on site, they will be managed in accordance with all applicable regulations. Materials Safety Data Sheets will be maintained and kept available on site, as applicable.	SUB PL DL	N/A	Submit a Site Safety Plan at least 30 days prior to construction. Store chemicals in accordance with applicable regulations.	Content and implementation of Site Safety Plan verified.	PG&E CPUC	PPP MON REV MON	**I. Prior to Construction:** *The Site Safety Plan will be submitted to the CPUC prior to the start of work in January 2014 on the substation component of the project.* (Complete) **II. During Construction:** *All hazardous materials and hazardous wastes will be handled, stored, and disposed of by personnel qualified to handle hazardous materials and in accordance with all applicable regulations throughout construction.* (Ongoing)

MM Hazards-2: An Environmental Training and Monitoring Program (ETMP) shall be established to communicate any environmental concerns to all field personnel, in addition to appropriate work practices, including: • Spill prevention and response measures (including BMPs), • Site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to nearest water bodies), • Review of all site-specific plans, including, but not limited to, the project's SWPPP and Site Safety Plan. A copy of the ETMP shall be submitted to the CPUC at least 30 days prior to construction. Training records shall be kept on site and submitted to the CPUC upon request. A PG&E representative shall be designated to ensure that the plans are followed throughout the construction period. BMPs identified in the project SWPPP shall be implemented during project construction to minimize the risk of an accidental release of hazardous materials and to provide the necessary information for emergency response.	SUB PL DL	N/A	Note: PG&E has clarified that an Environmental Training Program (ETP) will be developed to address worker training, and a separate Environmental Compliance Management Plan (ECMP) will be developed to address monitoring requirements. Submit ETP and ECMP at least 30 days prior to construction. Verify workers are trained prior to working on the site.	Content and implementation of ETP and ECMP verified. ETP training provided to all workers prior to working on site.	PG&E CPUC	PPP DOC MON REV MON	**I. Prior to Construction:** *The Project-specific ETMP and ECMP were submitted to and approved by CPUC in December 2013 and January 2014.* (Complete) **II. During Construction:** *The Key Staff Environmental Training was completed on 01/15/14. The Lead EI or EI on site will provide the Project-specific environmental training and associated handouts to all new Project personnel mobilizing to the site after the start of construction.* (Ongoing)
MM Hazards-3: PG&E will coordinate with local emergency personnel in the event that project activities may impact an access point or route during an emergency. PG&E will notify local law enforcement and fire protection services before beginning construction activities that require road closures so that the project will not result in inadequate emergency access.	SUB PL DL	All work areas	Notify local law enforcement and fire protection services prior to conducting any work that may affect emergency access.	Emergency response personnel notified.	PG&E CPUC	DOC REP REV	**I. Prior to Construction:** *PG&E will coordinate with local emergency personnel in advance of any project activities that may impact an access point or route during an emergency.* (Ongoing, not yet needed)
MM Hazards-4: Smoking will not be permitted during fire season, except in a barren area that is paved or cleared to bare soil at least 10 feet in diameter, or within vehicles and enclosed equipment cabs. Under no circumstances will smoking be permitted during fire season while employees are operating light or heavy equipment, or while walking or working in grasslands.	SUB PL DL	All work areas	No smoking during the fire season, or in grasslands. Smoking shall be contained to designated areas.	Smoking occurs only in designated areas outside of the fire season.	PG&E CPUC	MON MON	**II. During Construction:** *Smoking restrictions were reviewed in the Key Staff Environmental Training and will be stated at all subsequent trainings for new Project personnel. Compliance with these requirements will be confirmed in the field throughout construction.* (Ongoing)
Hydrology and Water Quality							
APM WQ-2: PG&E will avoid working within seasonal wetlands, ponds, or other water bodies. No poles will be placed within seasonal wetlands. The limits of seasonal wetlands adjacent to the work areas will be flagged in the field for avoidance. Underground canal and creek crossings will be drilled or bored underneath the water body.	PL DL	All work areas	Determine if seasonal wetlands, ponds, or other water bodies are present in work areas. If present, flag and avoid water features.	Water features properly flagged for avoidance. Canal and creek crossings drilled or bored underneath the water body.	PG&E CPUC	DOC MON* REP* REV MON* REP*	**I. Prior to Construction:** *The Project has been designed to avoid the placement of any new structures within a wetland. ESA flagging and signs, as well as any necessary workspace delineation, will be installed within a week prior to the start of work in each section/phase of the Project.* (Completed thus far and ongoing) **II. During Construction:** *All flagging, signs, and boundary delineation used for the delineation of approved workspaces, access roads, and/or exclusion zones will be maintained and replaced on an as-needed basis throughout construction. New/additional signs and flagging will be installed as needed when construction progresses from one section/phase of*

							the Project to another. (Ongoing)
APM WQ-3: PG&E will engineer a permanent infiltration basin within the substation perimeter to capture on-site stormwater, clean it of potential pollutants, and infiltrate it into the local groundwater table. Sizing and design of the facility will follow industry best practices, including Fresno County and California Stormwater General Permit guidelines.	SUB	Substation	Construct a stormwater infiltration basin within the substation.	Infiltration basin constructed.	PG&E CPUC	DOC MON REV MON	**II. During Construction:** *PG&E Inspectors will ensure compliance with design requirements of the infiltration basin.* (Started, not yet complete)
MM Hydrology-1: PG&E will be responsible for contacting property owners to help in identifying underground waterlines prior to construction. PG&E will design construction activities to avoid impacts to a known waterline to the extent that sufficient information is available to identify the precise location of the line. Should PG&E cause damage to an irrigation ditch or waterline during construction, PG&E will be responsible for contacting the owner to shut off the water supply, repairing the water line or irrigation ditch, and containing released water to the extent feasible.	PL DL	All work locations	Contact property owners to identify and avoid waterlines prior to construction. Repair any damage to waterlines caused by construction.	Impacts to known underground waterlines avoided. Construction-related damage repaired.	PG&E CPUC	DOC REP REV REP	**I. Prior to Construction:** *PG&E will coordinate with property owners in advance of any project activities that may impact water lines.* (Complete, no conflicts) **II. During Construction:** *If damage is incurred to any water lines as a result of Project activities, PG&E or the contractor will make the necessary repairs.* (No concerns thus far; one repair in progress)
MM Hydrology-2: In the case of a leak or other damage to the irrigation system utilized for the almond trees on the proposed substation site, PG&E will be responsible for repairing the irrigation system and employing BMPs as necessary to contain water released from the irrigation system.	SUB	Substation	Repair any damage to the almond orchard irrigation system and contain any water with erosion control BMPs.	Damage to almond orchard irrigation system repaired.	PG&E CPUC	MON REP MON REP	**II. During Construction:** *If damage is incurred to the irrigation system of the almond orchard as a result of Project activities, PG&E or the contractor will contain the water and make the necessary repairs.* (Ongoing, not yet needed)
MM Hydrology-3: Workers will not conduct construction activities in flooded areas during area flooding except as necessary to help alleviate the flooding or address emergency safety issues at the project site. Should flooding of the proposed substation or project area result in damage to substation structures or power poles, non-emergency repairs to these structures and/or pole replacement as necessary would be conducted when floodwaters subside and the area is safe for worker access. PG&E will inform CPUC of any flood damage to the project site that could change or require changes to the proposed project or affect the construction schedule.	SUB PL DL	All work areas	Avoid working in flooded areas unless necessary. Notify CPUC if flood damage occurs on the project site.	Flooded areas avoided.	PG&E CPUC	MON REP MON REP	**II. During Construction:** *If feasible, work in flooded areas will be avoided.* (Occurred thus far)
Land Use and Planning							
MM Land Use-1: PG&E will notify property owners within 300 feet of the project area at least 30 days prior to construction to alert them of project activities.	SUB PL DL	Within 300 feet of the project area	Notify landowners at least 30 days prior to construction of project activities.	Property owners notified.	PG&E CPUC	DOC REV	**I. Prior to Construction:** *PG&E will notify landowners within 300 feet of planned construction at least 30 days in advance of work.* (Ongoing for each component)
Noise							
APM Noise-1: Construction will not occur before 6:00 a.m. or after 9:00 p.m. on any day except Saturday or Sunday, when construction will not occur before 7:00 a.m. or after 5:00 p.m. Work will only be conducted outside of these hours as required for project safety or to take advantage of the limited times when the power line can be taken out	SUB PL DL	All work areas	Conduct construction between the hours of 6 a.m. and 9 p.m., Mondays through Fridays, and between 7 a.m. and 5 p.m. on	Noise disturbance limited by conducting work during described periods.	PG&E	DOC MON REP	**II. During Construction:** *Work will be conducted during the prescribed hours; if extended hours*

of service.			Saturdays and Sundays. If it is necessary to conduct work outside of these periods, PG&E shall provide justification in writing and the time periods of work.		CPUC	REV	*are required, justification will be provided in writing to CPUC.* (Ongoing)

Table B-1: Mitigation Monitoring Program Table

Project EPMs (APMs, AMMs, and MMs)	Work Phase[A]	Location	Interpretation and Implementation Approach	Effectiveness Criterion	Responsible Parties	Required Actions[B]	Implementation Period and Status
APM Noise-3: Where feasible, construction traffic will be routed to avoid sensitive noise receptors such as residences, schools, religious facilities, hospitals, and parks.	SUB PL DL	Project access roads and delivery routes	Route construction traffic away from sensitive receptors.	Noise disturbance reduced to sensitive receptors.	PG&E CPUC	DOC MON REV	**II. During Construction:** *Construction traffic will be routed away from sensitive receptors wherever possible.*
APM Noise-4: Stationary equipment used during construction will be located as far as practical from sensitive noise receptors.	SUB PL DL	All work areas	Place stationary equipment away from sensitive receptors.	Noise disturbance reduced to sensitive receptors.	PG&E CPUC	MON REP MON REP	**II. During Construction:** *Stationary equipment used during construction will be located as far as practical from sensitive receptors.*
APM Noise-6: Where feasible, equipment will be used that is specifically designed for low noise emissions and equipment powered by electric or natural gas as opposed to diesel or gasoline.	SUB PL DL	All work areas	Use low noise-emitting equipment.	Noise disturbance reduced to sensitive receptors.	PG&E CPUC	DOC MON REV	**II. During Construction:** *Low noise-emitting equipment will be used where feasible.*
APM Noise-7: Residents in areas of heavy construction noise will be notified prior to commencing construction activities. Notification should include written notice and the posting of signs in appropriate locations with a contact number that residents can call with questions and concerns.	SUB* PL* DL*	Substation and project power and distribution lines	Notify residents (also see MM Land Use-1) and install signs with a contact phone number along Sunnyside Avenue at the boundary of the substation property.	Adjacent residents notified regarding construction noise. Notice signs installed along Sunnyside Avenue at the boundary of the substation property.	PG&E CPUC	DOC MON* REP* REV MON* REP*	**I. Prior to Construction:** *PG&E will notify landowners in the vicinity of planned heavy construction (i.e., substation construction) prior to the start of work. Signs will be posted along Sunnyside Avenue within one week prior to the start of work, which will provide a contact phone number for the public.*
Traffic and Transportation							
APM Tran-1: Deliveries will be made during normal construction hours.	SUB PL DL	All work areas	Schedule deliveries to the site during normal construction hours (also see APM Noise-1).	Deliveries comply with the scheduled construction hours.	PG&E CPUC	MON MON	**II. During Construction:** *Deliveries will be made during normal construction hours.*
APM Tran-2: PG&E shall prepare and implement a Traffic Management Plan or plans as required by, and in accordance with County requirements. The plan or plans shall be submitted to the CPUC when submitted to the County, and shall be distributed to all construction supervisors prior to commencement of construction activities.	SUB PL DL	Project access roads and delivery routes	Submit and implement a Traffic Management Plan to Fresno County and the CPUC when working in a County road.	Traffic Management Plan prepared, submitted to Fresno County, and implemented.	PG&E CPUC	PPP MON REP REV MON	**I. Prior to Construction:** *The Traffic Management Plan (TMP) will be submitted to CPUC and Fresno County seven days ahead of construction requiring lane closures.* **II. During Construction:** *Measures detailed in the TMP will be*

						REP	*implemented during construction.*

NOTES:

[A] As described in Section 5 of the MMCRP, SUB = Substation construction; PL = Power line construction; and, DL = Distribution line construction

[B] As described in Section 5 of the MMCRP, PPP = Submit a plan, program, or permit; SURV = Submit survey results; DOC = Submit written documentation verifying EPM implementation (memorandum, letter, or email correspondence); REV = Review and verify submitted plan, program, permit, or other written documentation; MON = Monitor or visually verify on site; REP = Verify through reporting in the PG&E Compliance Reports and CPUC Monitoring Reports

* Specifies a required action during a work phase that depends on circumstances (e.g., only if a species is identified during surveys, if a water feature is identified in a work area, if a work activity poses a potential risk to a resource, etc.)

Attachment 3
PG&E NTP #4 and MPM #4 Request with Attachments as revised on October 31, 2014

SHEPHERD SUBSTATION PROJECT
Notice to Proceed (NTP) Request Form

NTP Request #:	4

Part A: NTP Request Summary		
Date Submitted:	**Requested Approval Date:**	**Expected Start Date:**
10/28/2014	11/28/2014	12/1/2014
Submitted by:	**Organization and Title:**	**Expected End Date:**
Greg Parker	Pacific Gas and Electric	12/31/2015

Requested NTP Action(s): *(List and describe each requested action or project phase, as described in the Initial Study/Mitigated Negative Declaration [IS/MND] or previously approved Minor Project Modifications [MPMs]. Include the location and anticipated schedule for each action. Attach additional information, as necessary.)*

Pacific Gas and Electric (PG&E) is planning for the start of construction specific to the distribution feeder line component of the Shepherd Substation Project on December 1, 2014. Pursuant to the approval received by the California Public Utilities Commission (CPUC) Permit To Construct on May 23, 2013 (Application No.A. 10-12-003), PG&E is requesting a Notice To Proceed from the CPUC to construct three distribution lines from the Shepherd Substation leading south to link to the existing distribution system. Two 21-kV distribution lines would be collocated underground on the west side of Sunnyside Avenue from the Shepherd Substation to Shepherd Avenue. One distribution line would remain underground heading west along Shepherd Avenue, would be bored underneath Enterprise Canal, and would connect to an existing aboveground power line at Preuss Avenue. The other distribution line would be bored underneath Shepherd Avenue and then rise onto wood poles along the west side of Sunnyside Avenue. The existing wood poles in this section would be replaced and the line would be reconductored. A 12-kV distribution line would be bored underneath Sunnyside avenue and would be constructed underground along the east side of Sunnyside Avenue to Shepherd Avenue where it would head underground east along the north side of Shepherd Avenue. Additionally, the existing overhead distribution line leading north from Shepherd Substation would be extended to Copper Avenue as underbuild along the new transmission line. Vegetation management will occur as needed to accommodate line safety requirements. Construction in this project segment is anticipated to continue through project-end in July 2015, however, this request is through December 2015 to provide flexibility in scheduling. The northern portion of the distribution phase of construction would include the continued use of turnaround locations to avoid seasonal wetlands, described within previously approved Minor Project Modification (MPM) #1.

PG&E requests along with this Notice to Proceed (NTP) the approval of MPM #4, which reflects the latest project design specific to the distribution segment of construction. This NTP is expected to open the remaining portions of the project to construction, and no further NTP requests are anticipated.

SHEPHERD SUBSTATION PROJECT
Notice to Proceed (NTP) Request Form

Part B: Minor Project Modification		
Does the NTP require a Minor Project Modification (MPM)? *(If so, briefly list each proposed change below and attach a complete MPM Request Form.)*	☒ Yes	☐ No

MPM #4 reflects PG&E's completion of the final design of the distribution line components of the project. The proposal includes clarification of the work methods, proposed access, workspace requirements, and specific distribution-related project components. Specifically, PG&E has proposed to use the "horizontal directional drilling" method for the east to west component of the underground portions of the line; they have identified supplementary work locations to support construction, including bore pits, necessary pole removals, replacements, and retrofit requirements. Details of the above are within MPM #4 (attached).

Part C: Pre-construction Compliance		
Attach an updated version of the Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) Table (Appendix B). Update the Implementation Status to reflect this NTP Request. *(Required)*	☒ Yes	☐ No

Part D: Surveys		
Biological Resources. Were all sites associated with the requested action(s) surveyed for biological resources? If so, were survey results positive or negative? Were surveys completed during the appropriate timing and season to detect resources? (*If not, describe below and note in the attached MMCRP Program Table*)	☒ Previously Surveyed ☒ Survey Attached	☒ Positive ☐ Negative
	☐ N/A	
Cultural Resources. Were all sites associated with the requested action(s) surveyed for cultural resources (records search and pedestrian survey)? If so, were survey results positive or negative?	☒ Previously Surveyed ☐ Survey Attached	☒ Positive ☐ Negative
	☐ N/A	
Hydrology. Were all sites associated with the requested action(s) surveyed for wetlands and other water resources? If so, were survey results positive or negative?	☒ Previously Surveyed ☐ Survey Attached	☒ Positive ☐ Negative
	☐ N/A	
Surveys: (*List each survey conducted for the NTP request, provide a brief summary of the dates and results below, and include key details of each survey in the attached MMCRP Program Table)*		

Biological Resources:

Initial biological surveys were conducted from 2008 to 2011. These surveys were primarily reconnaissance-level but did identify suitable habitat for protected species. As a result, mitigation measures were developed to ensure impacts to protected species are avoided or minimized.

As required by Minimization Measure (MM) Biology-1, appropriately timed preconstruction botanical surveys were completed on May 01, 05, 21, 22, and June 25, 2014. California Rare Plant Rank (CRPR) 1B.2 rated spiny-sepaled button celery (SSBC; *Eryngium spinosepalum),* was identified throughout the 200-foot survey area to the west of the transmission line between TSP 0/4 and TSP 0/9. No SSBC was identified south of the Shepherd Substation in the distribution component of the project. On May 21 and 22, the surveys were conducted in order to enumerate and map individuals of SSBC within the survey area. Field mapping including visible demarcation occurred prior to construction access. The June 25 survey included additional workspaces necessary in MPM #2. No other sensitive plant species were identified in the distribution component of the project during the additional botanical survey efforts. The botanical survey memo is attached.

Further species-specific biological surveys including work areas outside the original project area will be conducted prior to and within 30 days of the start of construction on the distribution feeder line component of the project. Results will be provided to the CPUC upon completion and prior to construction.

Cultural Resources:

Transcon completed cultural resource surveys in 2010 and 2011. In 2010, Transcon determined that three previously recorded sites are within the Area of Potential Effect (APE). In subsequent work including in 2011, Transcon determined that no new sites occur within the APE. The three sites discovered are located on the distribution portion of the project in the vicinity of where Shepherd Avenue crosses the Enterprise Canal. The West Branch Helm Colonial Ditch is located approximately 450 feet south of where trenching activities for the Shepherd Avenue West 21-kV Distribution Line are proposed. No impacts to this resource are anticipated. The vehicular bridge where North Shepherd Avenue crosses the Enterprise Canal was determined Not Eligible for National Register of Historical Places (NRHP). The Enterprise Canal will be avoided by boring beneath it to install the Shepherd Avenue West 21-kV Distribution Line, and by spanning above it where the existing distribution line is to be reconductored. Additionally, Native American consultation was conducted over a period of years beginning in January 2009 and concluding in April 2012.

Cultural resources will be avoided by boring under or spanning over historic features. A Cultural Resources Awareness Program has been developed to train workers on protective measures to take should unanticipated discoveries occur. This program has been submitted and approved by the CPUC.

Hydrology:

A wetland delineation was conducted by Transcon between March 18 and August 3, 2011. The following features were identified within or adjacent to the APE: seasonal wetlands, ephemeral drainage features, Enterprise Canal, Dry Creek, and manmade freshwater ponds. The project would avoid seasonal wetlands by placing power poles outside of the wetlands and not working while wetlands are ponded. No impact to other hydrological features is expected to occur as all work areas, pole locations, and bore bits are located a significant distance away. The additional work components in MPM #4 will also avoid all hydrological resources.

SHEPHERD SUBSTATION PROJECT
Notice to Proceed (NTP) Request Form

MPM #1 allows for the use of additional project turnarounds and alternate access routes, whereby identified wetlands can be fully avoided during construction.

Part E: Permits and Agency Approvals	
Have all required permits, permit amendments/reauthorizations, or agency approvals) been issued by resource agencies with applicable jurisdiction?	☒ Previously Provided
	☐ Authorization Attached
	☐ N/A
Permits and Agency Approvals: (*List each permit or approval that applies to the NTP request, provide a brief summary of each as necessary, and include key details in the attached MMCRP Program Table)*	

CPUC Permit to Construct, as amended, approved May 23, 2013.

U.S. Fish and Wildlife Service verified coverage (incidental take coverage) of the project (excluding the substation component) under PG&E's San Joaquin Valley Operations and Maintenance Habitat Conservation Plan on March 28, 2012.

California Department of Fish and Wildlife verified coverage (incidental take coverage) of the project (excluding the substation component) under PG&E's San Joaquin Valley Operations and Maintenance Habitat Conservation Plan on April 06, 2012.

MPM #1, as approved on June 20, 2014

MPM #2, as approved on August 6, 2014.

MPM #3, as approved on October 22, 2014.

Part F: Other Preconstruction Requirements	
Were all other necessary preconstruction requirements (e.g., plans, programs, etc.) completed for the requested action(s)? *(If not, describe when they will be completed prior to the requested action(s) and note in the MMCRP Program Table)*	☐ Previously Approved
	☒ Documentation Attached
	☐ N/A
Other Preconstruction Requirements: *(List other preconstruction requirements that were completed for the NTP, provide a brief summary of each as necessary, and include key details in the attached MMCRP Program Table)*	

SHEPHERD SUBSTATION PROJECT
Notice to Proceed (NTP) Request Form

Requirement/Plan	Status
Cultural Resources Awareness Program	Submitted and approved by the CPUC
Environmental Training Program (ETP), and an Environmental Compliance Management Plan (ECMP)	Submitted and approved by the CPUC
Paleontological Resource Management Plan (PRMP)	Submitted and approved by the CPUC
Site Safety Plan	Submitted and approved by the CPUC
Site-specific Burrowing Owl Plan	Not currently needed - required only if burrowing owls are present, and an occupied burrow cannot be avoided
Stormwater Pollution Prevention Plan (SWPPP), including an Erosion and Sediment Control Plan (ESCP)	Submitted and approved by the CPUC
Traffic Management Plan	This plan will be submitted at least 7 days prior to lane closures
Dust Control Plan	This plan has been submitted to and approved by the San Joaquin Air Pollution Control District prior to new ground disturbance occurring

If required, PG&E will acquire a transportation permit from the California Department of Transportation for use of oversize vehicles.

PG&E has submitted a Notice of Intent (NOI) to the State Water Resources Control Board in compliance with the National Pollutant Discharge Elimination System under the Construction General Permit Order 2009-0009-DWQ.

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SHEPHERD SUBSTATION PROJECT
Minor Project Change Request Form

Proposed Minor Project Change Type:		Request #:	
Minor Project Modification (MPM)		4	
Part A: Proposed Minor Project Change Summary			
Date Submitted:	**Requested Approval Date:**	**Start Date:**	**Expected End Date:**
10/28/2014	11/28/2014	12/1/2014	12/31/2015
Submitted by:	**Organization and Title:**	**Duration and Work Hours:**	
Brooke Langle	Terra Verde, Environmental Compliance Supervisor	Use would occur throughout the project duration.	
Contact Information:			
blangle@terraverdeweb.com, (805) 896-5479			
Location(s): *(Describe applicable location(s), address, and/or dimensions)*			
This change describes work along all distribution components of the Shepherd Substation Project (project), including: 1. Distribution Underbuild on 115-kV Transmission Line (Collocated on tubular steel poles) 2. Sunnyside Avenue South 21-kV Distribution Line 3. Shepherd Avenue West 21-kV Distribution Line 4. Shepherd Avenue East 12-kV Distribution Line			
Proposed Action(s): *(List and describe each proposed action)*			
This Minor Project Modification (MPM) request reflects the Pacific Gas and Electric (PG&E) final design of the distribution component of the Shepherd Substation Project (project). The items below detail proposed changes: 1) Undergrounding method change. To construct the underground components of the east to west distribution feeder lines (i.e. along Shepherd Avenue), PG&E has opted to utilize the "horizontal directional drilling (HDD)" method. Initially, the "trenching" method was proposed and only two bore pits were needed for drilling under the Enterprise Canal. Additional bore pits, as mapped, will be constructed to facilitate the underground process. One large-size pit will be needed on either end of the directional drill with smaller pits required intermittently for splice boxes and service taps. Large bore pits will be approximately 5 feet by 10 feet by 4 feet deep and smaller pits will be approximately 3 feet by 3 feet by 2 feet deep (refer to attached map for locations). 2) Description of residential service line and PG&E line tap reconnections. PG&E is clarifying the work procedure of local service connections not previously described in the MND. PG&E will transfer existing overhead service connections to the new line where existing overhead connections are present. Undergrounding of service lines will occur along the east and west components where splice box installations are proposed as well as along the northern line where existing underground services are present. Underground connections will be trenched the minimum distance necessary to reestablish			

service, typically to the nearest residence or wood pole.

3) In-ground splice boxes. Two additional splice boxes (approximately 5.5 by 9.5 by 7 feet deep) will be necessary along the northern distribution line, corresponding with existing underground facilities adjacent to new TSP locations (as mapped).

4) Addition of supplemental work areas. This process was not described in the MND and PG&E is clarifying the work proposed. Several locations have been identified outside the immediate project alignment for the installation of new/upgraded infrastructure. For most locations identified, work includes aboveground retrofits, including the installation of raptor guards, cutouts, insulated jumpers, and bushing covers. In two instances along the southern line, anchors would be replaced, constituting a negligible amount of ground disturbance. Additionally, two permanent wood interset poles are required along the northern distribution line. These locations are mapped within the 50-foot right-of-way. Two wood poles will be replaced along the eastern distribution line and one wood pole will be installed along the west distribution line, one span west of the Enterprise Canal (refer to attached map). All supplemental work locations are proposed to occur on public roads and disturbed road shoulders.

5) Tension and pull sites (TPS). PG&E is providing further information on two TPS locations (refer to attached map).

Purpose(s): *(Explain why the proposed action(s) are necessary)*

Prior to this MPM, PG&E was in the process of finalizing the design of these distribution components; the described components are necessary to keep existing PG&E customers in service, construct the project using the underground boring method, and to upgrade infrastructure to accommodate new/future load.

1) The HDD undergrounding method is proposed to limit the amount of ground disturbance along the entire distribution component; soil stockpiles, open trenches, and vegetation removal will be reduced as a result.

2) As part of the undergrounding (east and west components), reconductoring (southern component), and relocation (northern component) processes, PG&E will be temporarily cutting service to a number of residential service connections and connections to adjacent PG&E lines. Underground and overhead service reconnections are necessary to keep existing customers in service through the new layout of the distribution lines.

3&4) The purpose of the additional work components is chiefly to accommodate the new design of the power lines and comply with utility line standards. Interset poles are required for line safety clearances.

5) TPS locations were not previously mapped.

Part B: Existing Conditions

Current and Adjacent Land Use(s):

As described in the Project Description, land uses along the proposed TSP alignment include a mix of low-density residential housing, agricultural lands, and undeveloped land. The 115-kV power line and associated distribution component would be built along property lines and along existing fence lines between Perrin Road and Behymer Avenue. A significant portion of the changes described fall within the

existing project footprint along the three southern distribution components, along public roads and road shoulders; however, in a few instances access would occur through private lots via overland route and new right-of-ways must be acquired before entry.					
Has landowner approval been granted? *(Describe below)*			**Landowner:**	**Date of Approval:**	**Approval Verified by:**
☒ Yes	☒ No	☐ N/A	Multiple	10/16/2014	Galen Raymond, Chris Howard
All landowners affected by the planned distribution work were notified on October 16, 2014, more than 30 days ahead of the planned construction start. Right-of-way acquisition will occur as needed prior to construction in those areas affected.					

Surveys *(List any new survey reports under Part D, attach a copy, and describe relevant survey details under the applicable resource category listed in the Part E)*		
Biological Resources. Were all sites associated with the proposed action(s) surveyed for biological resources with the potential to occur in the area? If so, were survey results positive or negative? Were surveys completed during the appropriate timing and season to detect resources? (*If not, describe under the applicable resource category in Part E)*	☒ Previously Surveyed ☒ Survey Attached	☒ Positive ☐ Negative
	☐ N/A	
Cultural Resources. Were all sites associated with the proposed action(s) surveyed for cultural resources (records search and pedestrian survey)? If so, were survey results positive or negative?	☒ Previously Surveyed ☐ Survey Attached	☒ Positive ☐ Negative
	☐ N/A	
Hydrology. Were all sites associated with the proposed action(s) surveyed for hydrologic resources? If so, were survey results positive or negative?	☒ Previously Surveyed ☐ Survey Attached	☒ Positive ☐ Negative
	☐ N/A	

Part C: Permits, Agency Approvals, and Environmental Protection Measures (EPMs) *(List any new permits or agency approvals under Part D, attach a copy, and describe relevant details under the applicable resource category listed in Part E)*	
Have all required permits, permit amendments/authorizations, or agency approvals been issued by resource agencies with applicable jurisdiction?	☒ Previously Provided
	☐ Authorization Attached
	☐ N/A

SHEPHERD SUBSTATION PROJECT
Minor Project Change Request Form

Would the proposed action(s) conflict with permit conditions or agency approvals?	☐ Yes	☒ No
Would the proposed action(s) conflict with project applicant proposed measures, avoidance and minimization measures, or mitigation measures listed in the Initial Study/Mitigated Negative Declaration (IS/MND)?	☐ Yes	☒ No

Part D: Attached Materials: *(e.g., surveys, maps, photos, memos, agency authorizations, etc.)*
Updated Project Maps Botanical Survey Memo

Part E: IS/MND Consistency				
Impact Question	**No Change**	***De Minimis* Change**	**Potentially Significant Change**	**N/A**
Would the Proposed Action Result in a New Impact, or Increase the Severity of an Impact Previously Analyzed in the IS/MND? Provide information on any new impacts or additional impacts. *(Refer to the IS/MND for the details on the project impact evaluation.)*	☒	☐	☐	☐

Biological Resources: Initial biological surveys were conducted from 2008 to 2011. These surveys were primarily reconnaissance-level but did identify suitable habitat for protected species. As a result, mitigation measures were developed to ensure impacts to protected species are avoided or minimized.

As required by Minimization Measure (MM) Biology-1, appropriately timed preconstruction botanical surveys were completed on May 01, 05, 21, 22, and June 25, 2014. California Rare Plant Rank (CRPR) 1B.2 rated spiny-sepaled button celery (SSBC; *Eryngium spinosepalum),* was identified throughout the 200-foot survey area to the west of the transmission line between TSP 0/4 and TSP 0/9. No SSBC was identified south of the Shepherd Substation in the distribution component of the project. On May 21 and 22, the surveys were conducted in order to enumerate and map individuals of SSBC within the survey area. Field mapping including visible demarcation will occur prior to construction access. The June 25 survey included additional workspaces necessary in MPM #2. No other sensitive plant species were identified in the distribution component of the project during the additional botanical survey efforts. The botanical survey memo is attached.

Further species-specific biological surveys including work areas outside the original project area will be conducted prior to and within 30 days of the start of construction on the distribution line component of the project. Results will be provided to the CPUC upon completion and prior to construction.

SHEPHERD SUBSTATION PROJECT
Minor Project Change Request Form

Part E: IS/MND Consistency				
Impact Question	**No Change**	***De Minimis* Change**	**Potentially Significant Change**	**N/A**

Cultural Resources: Transcon completed cultural resource surveys in 2010 and 2011. In 2010, Transcon determined that three previously recorded sites are within the Area of Potential Effect (APE). In subsequent work including in 2011, Transcon determined that no new sites occur within the APE. The three sites discovered are located on the distribution portion of the project in the vicinity of where Shepherd Avenue crosses the Enterprise Canal. The West Branch Helm Colonial Ditch is located approximately 450 feet south of where trenching activities for the Shepherd Avenue West 21-kV Distribution Line are proposed. No impacts to this resource are anticipated. The vehicular bridge where North Shepherd Avenue crosses the Enterprise Canal was determined Not Eligible for National Register of Historical Places (NRHP). The Enterprise Canal will be avoided by boring beneath it to install the Shepherd Avenue West 21-kV Distribution Line, and by spanning above it where the existing distribution line is to be reconductored. Additionally, Native American consultation was conducted over a period of years beginning in January 2009 and concluding in April 2012.

Cultural resources will be avoided by boring under or spanning over historic features. A Cultural Resources Awareness Program has been developed to train workers on protective measures to take should unanticipated discoveries occur. This program has been submitted and approved by the CPUC.

Hydrology: A wetland delineation was conducted by Transcon between March 18 and August 3, 2011. The following features were identified within or adjacent to the APE: seasonal wetlands, ephemeral drainage features, Enterprise Canal, Dry Creek, and manmade freshwater ponds. The project would avoid seasonal wetlands by placing power poles outside of the wetlands and not working while wetlands are ponded. No impact to other hydrological features is expected to occur as all work areas, pole locations, and bore pits are located a significant distance away. The additional work components in this MPM will also avoid all hydrological resources.

MPM #1 allows for the use of additional project turnarounds and alternate access routes, whereby identified wetlands can be fully avoided during construction.

Permits, Agency Approvals, and Environmental Protection Measures (EPMs): The approvals required to construct the distribution component of the project are included in the accompanying Notice to Proceed (NTP) request #4. Additionally, PG&E will submit a traffic plan for anticipated road closures at least seven days ahead of construction.

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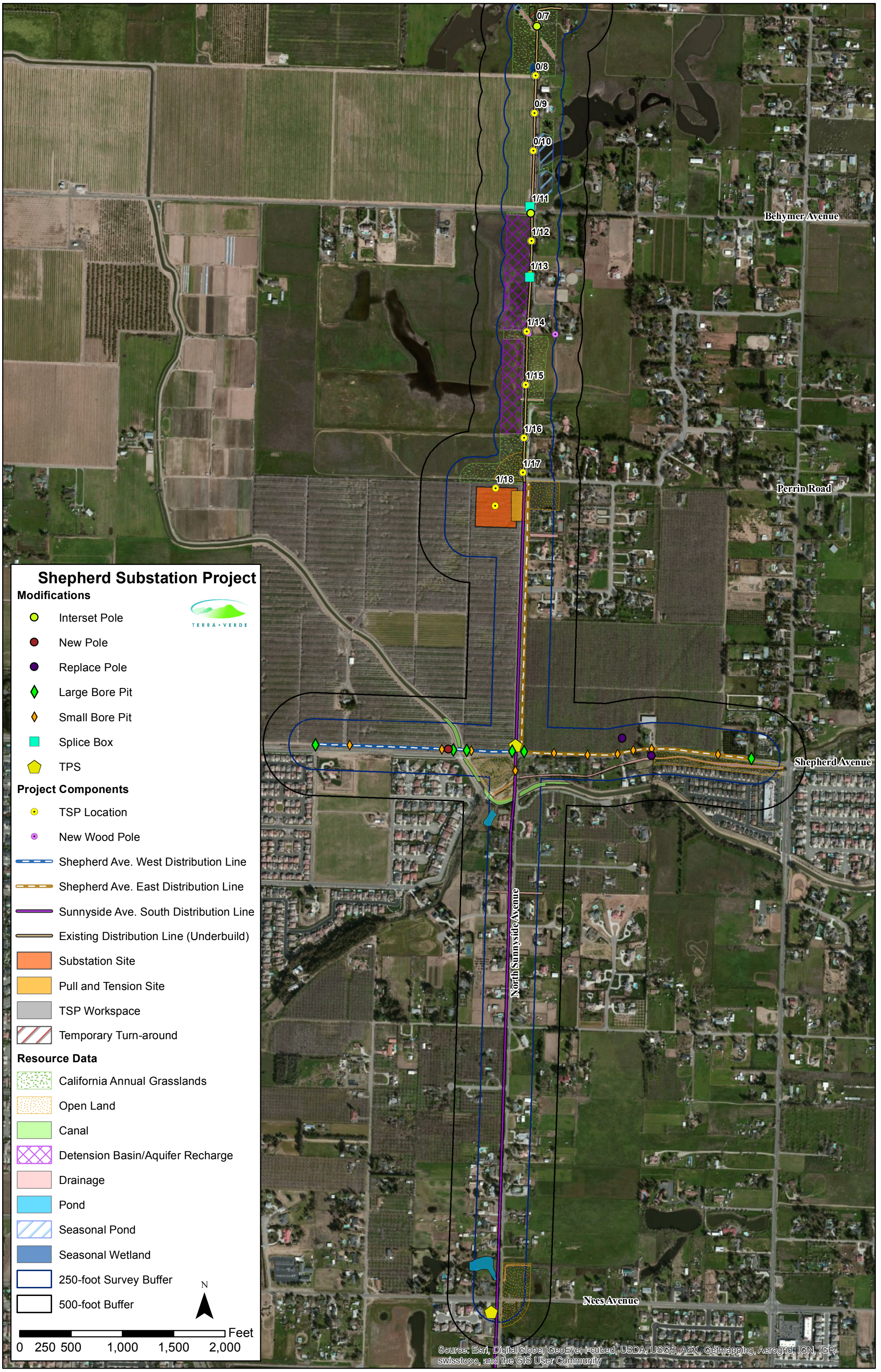
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Nees Avenue
Shepherd Substation Project
Modifications
Interset Pole
New Pole
Replace Pole
Large Bore Pit
Small Bore Pit
Splice Box
TPS
Project Components
TSP Location
New Wood Pole
Shepherd Ave. West Distribution Line
Shepherd Ave. East Distribution Line
Sunnyside Ave. South Distribution Line
Existing Distribution Line (Underbuild)
Substation Site
Pull and Tension Site
TSP Workspace
Temporary Turn-around
Resource Data
California Annual Grasslands
Open Land
Canal
Detension Basin/Aquifer Recharge
Drainage
Pond
Seasonal Pond
Seasonal Wetland
250-foot Survey Buffer
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Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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June 26, 2014

Greg Parker, Principal Land Planner
Pacific Gas and Electric Company
1455 East Shaw Avenue, Bag 23
Fresno, California 93710

RE: Summary of Pre-activity Botanical Surveys, PG&E Shepherd Substation Project Clovis, California

Dear Mr. Parker,

This memo is being provided to summarize the results of pre-activity botanical surveys conducted on May 01, 05, 21, and 22, and June 25, 2014 in support of Pacific Gas and Electric Company's (PG&E) Shepherd Substation Project (Project). Surveys were completed in accordance with Mitigation Measure (MM) Biology-1 in the Mitigated Negative Declaration (MND) prepared for the Project. Per the MND, there are four special-status plants with potential to occur in the Project survey area:

- San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*); California endangered, Federally threatened, and California Rare Plant Rank (CRPR) 1B.1
- Succulent owl's clover (*Castilleja campestris* subsp. *succulenta*); California endangered, Federally threatened, and CRPR 1B.2
- Spiny-sepaled button-celery (*Eryngium spinosepalum*); CRPR 1B.2
- Dwarf downingia (*Downingia pusilla*); CRPR 2.2

Terra Verde botanists Kristen Nelson and Jessica Adinolfi conducted pre-activity surveys for botanical resources in all native and naturalized habitat areas within a 200-foot buffer of all Project components on May 01 and 05, 2014. The survey area included the following areas: (1) the transmission alignment (between Perrin Road and East Copper Avenue) as well as a 200-foot buffer to the west, and to the extent that access was feasible to the east of the transmission alignment; (2) the tension-pull site north of Tubular Steel Pole (TSP) 0/1 (north of Copper Avenue) and a 200-foot buffer to the north and west of the tension-pull site; (3) a 200-foot buffer to the north and east of the substation site; (4) the open, naturalized area parallel to

Shepherd Avenue, just west of North Fowler Avenue; and (5) the open, naturalized areas at the northeast and southeast corners of the intersection of Nees Avenue and North Sunnyside Avenue. All other areas within 200 feet of Project workspaces were not considered to be native or naturalized (e.g., developed, ruderal, or active agriculture/orchards) and were not surveyed.

On May 01, prior to initiating surveys within the Project area, Ms. Nelson and Ms. Adinolfi met PG&E Biologist Zach Parker at a nearby Cal Trans mitigation property along Highway 41. The mitigation property is located approximately 6.5 miles northwest of the Project and supports documented/known populations of three of the four potentially occurring special-status plants, including: San Joaquin Valley Orcutt grass, succulent owl's clover, and spiny-sepaled button-celery (SSBC). Additionally, due to the wide blooming window for San Joaquin Valley Orcutt grass (April to September), a second survey for this species was completed at the reference site on June 25, 2014 to account for seasonal fluctuations in bloom time. SSBC was readily identifiable and abundant at the mitigation property (i.e., reference site) during both surveys. However, the San Joaquin Valley Orcutt grass and the succulent owl's clover were not detected at the reference site during a comprehensive survey throughout known occupied habitat. As such, it was determined that the timing of surveys were suitable for the detection of spiny-sepaled button-celery, if present within the Project survey area. Annual population fluctuations, and below average rainfall during the winters of 2012 to 2013 and 2013 to 2014 may have contributed to the lack of detection of the San Joaquin Valley Orcutt grass and succulent owl's clover.

A publicly accessible reference site for dwarf downingia was not identified. The rare plant chair of the Fresno chapter of the California Native Plant Society, John Stebbins, was consulted regarding the identification and detection of dwarf downingia as well as common downingia species this year. Mr. Stebbins noted that it is a poor blooming year for even the more common species of downingia.

A species inventory was completed for all surveyed areas within a 200-foot buffer of Project workspaces, as described above. Plant species identification, nomenclature, and taxonomy followed *The Jepson Manual: Vascular Plants of California* (Baldwin et al 2012). SSBC was identified throughout most of the 200-foot survey buffer to the west of the transmission line between TSP 0/4 and TSP 0/9.

On May 21 and 22, subsequent surveys of the transmission line section of the Project were conducted in order to enumerate and map individuals of SSBC within the 200-foot survey buffer. Mapping was completed using a Trimble Global Positioning System (GPS) unit (accuracy

< 1m) between TSP 0/4 and 0/9, where suitable, occupied habitat was identified. During the mapping effort, it was noted that the population of SSBC also extends to the east of PG&E's right-of way in one area (bounded property lines) between TSP 0/5 and 0/6. However, access constraints for the properties east of the transmission line limited the survey effort to the extent that plants could be identified and counted from a visual scan over the fence line in this section. Special-status plant populations documented within the Project survey area were mapped using Geographic Information System (GIS) software (see attachment). No other special-status species were identified during any of the survey efforts. Additionally, in accordance with MM Biology-2 in the MND, a search for Molestan blister beetle was conducted in conjunction with botanical surveys; none were observed.

If you should have any questions or require further information, please contact me at knelson@terraverdeweb.com or at (702) 596-5038.

Sincerely,

Kristen Nelson, Botanist
Terra Verde Environmental Consulting

Attachments:
Shepherd Substation Project – Special-status Plant Populations Map

Cc: Zachary Parker, PG&E Senior Biologist
Brooke Langle, Environmental Compliance Supervisor