San Francisco Bay Conservation and Development Commission
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May 10, 2024

Staff Recommendation

Pacific Gas and Electric Company Bay Area Operations and Maintenance Permit

(For Commission consideration on May 16, 2024)

Permit Application Number:	2023.002.00
Applicant:	Pacific Gas and Electric Company
Project Description:	A program to repair, maintain, replace, remove, retire and modify PG&E facilities for a 5-year period, until March 1, 2029
Location:	Throughout the Commission's jurisdiction, with the exception of the Suisun Marsh
Application Filed Complete:	February 28, 2024
Deadline for Commission Action:	May 28, 2024
Staff Contact:	Rowan Yelton (415/352-3613; rowan.yelton@bcdc.ca.gov)
Staff Recommendation:	APPROVAL WITH CONDITIONS

Basis for Staff Recommendation

The staff recommends approval of the application as conditioned in the recommended resolution, below. The project will consist of various minor replacement, repair, maintenance and removal activities at existing PG&E facilities, throughout the Commission's jurisdiction for five years. The proposed use is not in conflict with any Priority Use Areas established by the San Francisco Bay Plan. Among other things, the recommended resolution includes special conditions to:

A. Submit individual activity proposals prior to work for BCDC staff review and sign-off as authorized under this approval;

B. Submit annual reviews of work performed for BCDC staff review and approval;

C. Limit the authorized activities to projects that do not significantly expand the permittee operations or facilities or involve substantial adverse environmental impacts to Bay resources;

D. Require compliance with conditions to avoid and minimize adverse environmental impacts for authorized activities;

E. Define limits to authorized activities to ensure compliance with BCDC regulations and Bay Plan policies;

F. Limit duration of temporary structures and construction impacts; and

G. Ensure that authorized projects do not significantly or permanently affect public access to and along the Bay.

Recommended Resolutions and Findings

The staff recommends the Commission adopt the following resolution:

I. Authorization

A. Authorized Project

Subject to the conditions stated below, the permittee, the Pacific Gas and Electric Company is granted permission to do the following in the Bay, within the 100-foot shoreline band, in Certain Waterways, in Salt Ponds, Managed Wetlands, and Priority Use Areas throughout the Bay Area, excluding the primary management area of the Suisun Marsh (hereinafter referred to as, "BCDC jurisdiction").

1. Repair, maintain, replace, retire, and modify existing electrical and gas facilities (such as pipelines, transmission towers, wires, poles, and foundations/footings), and accessory structures (such as access boardwalks, security fences, signs, roads, cathodic protection, riprap revetments, and drainage systems);
2. Install new interset structures, fences, gates, signs, cathodic protection and equipment on or near existing facilities;
3. Remove existing facilities and restore disturbed areas;
4. Temporarily use areas and place fill (fewer than 180 days) for the purpose of allowing site access and staging (such as construction matting and scaffolding); and
5. Utilize land outside of utility rights of way to stage materials, equipment, and vehicles while performing routine operations and maintenance work subject to Special Condition II.A.3.iii Staging Areas and Special Condition II.D Property Interest.

This authority is generally pursuant to and limited by the application dated March 1, 2023, including all accompanying and subsequently submitted correspondence and exhibits, subject to the modifications required by conditions hereto.

B. Deadlines for Commencing and Completing Authorized Work

Work authorized herein may be conducted between June 1, 2024 and June 1, 2029, unless an extension of time is granted by amendment of the permit.

C. Project Summary

This permit will programmatically authorize minor repair, maintenance, replacement, removal and retirement activities on the permittee's facilities throughout BCDC's Jurisdiction excluding the Primary and Secondary management areas of the Suisun Marsh, and establish an activity proposal submittal and review process to ensure compliance with the conditions of this permit.

1. Bay Fill
   The project may result in minor increases in Bay Fill resulting from replacement activities, where the replacement structure is not substantially larger or of a different purpose than the existing structure, and may be in an immaterially different location from the original structure.

2. Public Access
   Authorized activities shall not result in permanent or significant temporary adverse impacts to public access.

II. Special Conditions

The authorization made herein shall be subject to the following special conditions, in addition to the standard conditions in Part IV:

A. Activity Proposal and Review

Individual activities conducted under the authorization of this permit shall undergo a pre-construction review process and/or an annual review by BCDC staff according to the class of activity.

1. Jurisdictional Determinations
   The permittee shall reference the McAteer-Petris Act section 66610 to determine whether a project is in BCDC jurisdiction and thus requires BCDC authorization. When the permittee is unsure whether a project site is in the BCDC jurisdiction, the permittee shall submit a jurisdictional determination request consisting of the precise coordinates, area, and topographic data of the site, a description and photographs of the site, and a description of planned activity. BCDC staff shall respond within 10 business days of receipt of a request.

2. Activity Classes

The permittee shall determine the appropriate class of each activity proposed under this permit prior to submitting an activity for review.

- Class I. Routine maintenance and repairs, minor modification of structures, and component replacement and removal activities that do not involve any substantial enlargement or change in use of an existing structure, do not involve in-water work, and would not cause any temporary or permanent adverse effects to the environment or public access.
- Class II.A. Maintenance, repair, replacement, retirement, and removal activities that may require minor modifications to the design of existing structures in the Shoreline Band that do not result in temporary or permanent adverse effects on present or future public access to the Bay.
- Class II.B. Maintenance, repair, replacement, retirement, and removal activities that may require minor modifications to the design of existing structures within the Shoreline Band that involve temporary (fewer than 180 days) public access impacts, but not significant permanent adverse effects on present or future public access to the Bay.
- Class III. Maintenance, repair, replacement, retirement, and removal activities that may require minor modifications to the design of existing structures anywhere in BCDC jurisdiction that will not result in significant permanent adverse effects to the Bay environment (including but not limited to tidal wetlands, tidal flat and subtidal habitat) or fish and other aquatic wildlife during construction with the implementation of appropriate avoidance and minimization measures. These activities may have temporary adverse impacts to public access, but not permanent adverse effects on present or future public access to the Bay.

Any proposed activity that does not qualify within one of the above-identified classes of authorized activities may only be authorized through a separate permit application submittal.

3. Limits to Authorized Activities

a. **Class I.** Activities authorized in Class I shall not change the design, location, materials or use of a structure. Examples of such activities include repairing and replacing poles, guy wires and anchors, replacing tower components such as conductors, climbing ladders, steel tower members, bolts, insulators and other hardware, and trimming and removal of vegetation near wires. Replacement and removal of entire structures, ground-disturbing activities in the Bay,

Certain Waterways, Salt Pond or Managed Wetland jurisdiction, and activities that change the design, location, materials or use of a structure shall not qualify as Class I activities.

b. **Class II.A, II.B and III.** With respect to activities proposed under Classes II.A, II.B, or III, authorized activities shall not result in permanent adverse effects on present or future public access to the Bay.

When a replacement activity is conducted, the new structures shall be designed with the minimum amount of fill necessary to achieve the purpose of the fill, and shall, in comparison with the existing structure, (a) serve the same purpose, (b) be made of substantially the same materials and design or different materials and design to meet the same purpose while complying with current engineering standards or requirements, (c) not significantly increase fill in the Bay, and (d) not result in new significant adverse impacts to the environment or public access. Additionally, replacement structures must be placed in the same approximate location and orientation unless the special conditions of this permit are adequate to ensure that the proposed activity will not result in any significant impacts beyond those which are temporary and will be restored per Special Condition II.C.6 and either:

i. the replacement structure would be located out of BCDC jurisdiction; or

ii. the pre-existing structure is located in the Bay, Certain Waterway, Salt Pond, or Managed Wetland jurisdiction and the replacement structure is located in the 100-foot shoreline band; or

iii. the relocation of the structure would result in a significant net reduction in Bay fill and would not have significantly greater adverse environmental impacts compared to replacement in the same location; or

iv. the relocation of the structure would result in significant improvements to public access or views of the Bay and would not have significantly greater adverse environmental impacts compared to replacement in the same location,

If a proposed structure replacement cannot meet the requirements specified above, the permittee must submit a new permit application to authorize the proposed replacement.

Removal activities shall completely remove an existing structure unless the BCDC staff determines that the complete removal of the structure would result in greater adverse impacts to the environment or public access than the retirement, in whole or in part.

The retirement or partial retirement in place of a structure shall only be permitted when the retired structure is completely underground, and if the permittee ceases all use of the structure and can clearly demonstrate that complete removal of a structure would result in greater adverse effects to the environment or public access compared to retirement of the structure. Retirement shall involve appropriate modification of the structure to ensure that it will remain inert and not adversely affect the environment, public access and public views of the Bay.

Modifications and upgrades to existing structures shall not significantly change the use of a structure or significantly increase the size of the structure.

c. **Staging Areas.** When conducting projects under this permit authorization, the permittee may use areas in BCDC Bay, Certain Waterways, Managed Wetland and Salt Pond jurisdiction for staging and access only if no alternative location in the 100-foot Shoreline Band or outside of BCDC jurisdiction is feasible, the area used is the minimum necessary, and use of the staging area will not result in any permanent adverse impacts to the environment or public access or temporary impacts that cannot be restored within two years (Special Condition II.C.6). Project Notifications shall include all relevant information on staging and access areas such as site plans, traffic control plans and work schedules.

4. Review Process

Class I. These activities must be tracked and reported annually per Special Condition II.E, but do not require further pre-approval.

Class II.A. These activities shall be reviewed for approval by BCDC within 10 business days of receipt of a completed Project Notification (PN).

Class II.B. These activities shall be reviewed for approval by BCDC within 30 business days of receipt of a completed PN.

Class III. These activities shall be reviewed for approval by BCDC within 40 business days of receipt of a completed PN.

Requirements for a PN are listed in Exhibit A.

BCDC staff shall review a PN for completeness and to ensure that the proposed avoidance, minimization, and restoration measures are identified on the approved Best Management Practices list (Exhibit B) or are substantially similar to such identified Best Management Practices. If BCDC staff finds that the submitted PN is incomplete, BCDC shall notify the permittee of the determination with an explanation within 7 business days of receiving the incomplete PN and the permittee shall resubmit a PN with deficiencies corrected for BCDC staff approval. This process shall be iterative until the submitted PN is deemed complete by BCDC staff.

If, once a PN is submitted, BCDC staff finds that a proposed activity does not qualify within one of the classes of authorized activities specified in Special Condition II.A.2, BCDC staff shall notify the permittee within 7 business days of receipt of the request.

If, once a complete PN is submitted, BCDC staff finds that a proposed activity has been misclassified by the permittee, BCDC staff shall notify the permittee of the change in class determination within 7 business days and provide a review of the project within the deadline of the BCDC staff-determined class starting on the date of complete PN submission.

If the permittee proposes an activity that requires expedited review, the permittee shall adequately describe and support that assertion when submitting the project request, including evidence that the request was submitted to BCDC as soon as feasible. In response to a request for expedited review, BCDC staff reserves the right to determine whether and how quickly to expedite review, which such expedited review shall not be unreasonably withheld.

If BCDC staff do not respond to a PN within the timeframes specified above, the proposed activity may be conducted according to the information submitted in that PN.

5. Annual Report

The permittee shall submit an annual report by June 1st of each year summarizing work of the previous calendar year. The report shall contain:

1. Narrative descriptions of each Class II.A, Class II.B and Class III project conducted over the previous year, including location, type of project, temporary fill, and public access and environmental impacts and any corresponding avoidance and minimization measures.
2. Summary data on the activities of all classes conducted in the previous year and cumulatively since the issuance of this permit with information on class, jurisdiction, location, fill volume and area, and type, submitted as a .csv file.
3. List of post-construction reports and monitoring reports submitted in the past year, and the reports scheduled for submission in the next year.
4. A list of all projects proposed in the previous annual report that were reviewed by staff and found to be consistent with this permit, but were not conducted, and all projects proposed in the previous annual report that were reviewed by BCDC staff and found to not be consistent with this permit.
5. A 5-year anticipated work plan for electrical tower replacement projects.

6. A list of all known projects anticipated to be conducted in the following year under this permit authorization.

B. Permit Timeline and Extension

The activities described herein are authorized for a period of five years beginning June 1, 2024 and ending on June 1, 2029. At the conclusion of this five-year period, the Executive Director, based on the evaluation of (1) the annual reports submitted to date summarizing the work completed pursuant to this permit, (2) the effectiveness of best management practices in minimizing disturbance to existing habitat, (3) reported impacts to special status species, (4) adverse impacts on public access, and (5) consultation with other resource agencies, may extend the authorization term for this permit for an additional five-year period, upon submittal of a permit amendment request by the permittee. Such extension may include modifications by the Executive Director to the existing special conditions, including modification of the classes of authorized activities and best management practices identified in Exhibit B based upon monitoring results and experience with methods to avoid and minimize habitat disturbance, harmful effects to special status species, and adverse effects to public access.

C. Habitat and Species Protection

The work authorized by this permit shall be performed in a manner that will prevent or minimize any significant adverse impact on any beach, tidal marsh, or other sensitive environment within BCDC jurisdiction by ensuring that all authorized work is undertaken consistent with the below specified habitat and species protection measures or substantially similar measures.

1. Best Management Practices

The permittee shall prevent construction materials from falling into the water or tidal marsh during construction. In the event that debris does reach the water or tidal marsh, personnel will immediately retrieve the debris for proper handling and disposal. All construction material, wastes, debris, sediment rubbish trash, fencing, etc., will be removed from the site on a regular basis during work and at project completion. All waste and debris will be transported to authorized disposal areas. Work shall not be conducted within two hours of an extreme high tide. Equipment shall not be staged in tidal marsh areas.

The permittee shall avoid and minimize impacts to habitat and wildlife during authorized activities, and implement the Best Management Practices provided in Exhibit A.

2. Tidal Marsh Protection

   Activities occurring in or adjacent to tidal marshes (defined in the Bay Plan as vegetated wetlands subject to tidal action that occur throughout much of the Bay extending from approximately Mean Sea level to the maximum height of the tides) shall be conducted to minimize and avoid adverse impacts to tidal marsh habitats and resident organisms. When activities are conducted in tidal marshes, the permittee shall employ qualified biologists to perform reconnaissance surveys of the project site for special status species including (but not limited to) salt marsh harvest mouse, Ridgway's rail, black rail, soft bird's beak, and Mason's lilaeopsis prior to the submittal of a PN. If special status species are found at, or directly adjacent to a project site, the permittee shall implement measures, under the direction of the employed qualified biologists, to prevent the take of these species, such as exclusion fences, vegetation protection mats, vegetation flushing and buffer zone establishment. Project specific minimization measures shall be detailed in the PN for BCDC staff review.

3. Temporary Fill

   Temporary fill shall only be placed for construction site access and staging in BCDC jurisdiction when no alternative location is possible and shall be removed within 180 days of placement. If the permittee wishes to maintain the temporary fill for longer than 180 days, the permittee shall apply for a separate permit for that fill placement within a reasonable lead time to allow BCDC to act on that permit application prior to expiration of the 180-day authorization for temporary fill. Project site areas disturbed by the temporary placement of fill shall be restored as required by Special Condition II.C.6, Site Restoration.

4. Pile-Driving

   The permittee shall use a vibratory hammer when feasible to install new pilings, and only use an impact hammer if required by specific facility and location conditions. Pile driving shall be conducted using a soft-start method to minimize sound impacts to fish and other aquatic wildlife and shall be conducted at low tide or when water is not present. If an impact hammer is used for pile driving, the permittee shall implement noise reduction methods such as wood cushion blocks and bubble curtains, and a soft start to allow fishes and other animals the opportunity to leave the project area during construction. Pile driving activities that use impact hammers shall be conducted only when water is not present or in the appropriate work windows (in accordance with Special Condition II.C.8 Environmental Work Windows) to avoid the take of listed species.

5. Shoreline Protection Material, Placement, and Maintenance

Riprap material shall be either quarry rock, specially cast or carefully selected concrete pieces free of reinforcing steel and other extraneous material and conforming to quality requirements for specific gravity, absorption, and durability specified by the California Department of Transportation or the USACE. The material shall be generally spheroid-shaped. Use of dirt, small concrete rubble, concrete pieces with exposed rebar, large and odd shaped pieces of concrete, and asphalt concrete as riprap is prohibited. Riprap material shall be placed so that a permanent shoreline with a minimum amount of fill is established by means of an engineered slope not steeper than two (horizontal) to one (vertical) unless slope is keyed at the toe.

6. Site Restoration

a. **Non-tidal Marsh Impacts.** If any adverse impacts occur to non-tidal marsh areas because of the activities authorized herein, the permittee shall restore the area to its previous condition, including returning the disturbed area to its original elevation and soil composition and seeding all disturbed areas with appropriate species consistent with plans approved by or on behalf of the Commission.

b. **Expected Tidal Marsh Impacts.** Proposed activities that are expected to cause adverse impacts to tidal marshes that will not passively revegetate or require active restoration are not authorized under this permit. When a proposed tidal marsh activity is expected to result in significant temporary impacts (determined by BCDC staff based on the types of activities, area of disturbance, and pre-existing site conditions) to tidal marsh vegetation and habitat (including but not limited to vegetation clearing or trimming, placement of construction matting in a tidal marsh, and excavation), those sites shall be restored to 90% of the pre-construction cover conditions (see Table 1) or better within two years, and the permittee shall:

i. Submit (as part of the activity PN) a restoration and monitoring plan (RMP) containing photographs from fixed points, an analysis of existing tidal marsh vegetated cover and species richness, expected impacts, monitoring schedule and methods, planned restoration actions, and contingency actions in case of non-success;

ii. Conduct a pre-activity survey of the site (including vegetation) to establish the pre-existing site condition for comparison in follow-up vegetation monitoring;

iii. Immediately after activity completion, restore the site by removing all construction materials and debris, regrading to original elevations, and/or reseeding and planting, and send a post-activity report containing as-built information, photographs of the site, and results of the pre-activity survey;

iv. Conduct annual post-activity vegetation surveys until restoration meets success criteria; and

v. Send annual reports to BCDC documenting the restoration progress towards the success criteria, and proposed adaptive management actions if necessary until the success criteria are met.

Table 1. Success of passive restoration shall be based on the following success criteria:

Monitoring Year	Percent absolute cover of native vegetation compared to pre-project cover	Percent absolute cover of plants listed as "high" by the Cal-IPC
Year 1	60%	<5%
Year 2	90%	<5%

The success criteria may be modified by BCDC staff for individual sites at the request of the permittee if the permittee can demonstrate that alternative success criteria are appropriate. If BCDC staff find that a post-construction or annual monitoring report are inadequate or require revision, BCDC staff shall respond to the permittee within 20 business days of receipt of the monitoring report. If BCDC staff do not respond to the permittee's post-construction or monitoring report within the specified timeframe, no further action will be required of the permittee for that specific report. If Year 2 success criteria are achieved by Year 1, the restoration may be considered complete, if confirmed by BCDC staff.

Within 20 business days of receipt of a final monitoring report asserting achievement of the success criteria (as determined by the permittee), BCDC staff shall respond to the permittee to confirm or deny the success of the site restoration. If BCDC staff do not respond to the permittee's report of a completed restoration (all success criteria achieved) within the specified timeframe, no further action will be required by BCDC for that project site.

If a temporarily impacted tidal marsh site restoration has not achieved the success criteria within two years of construction completion, the permittee shall submit an analysis of the situation and a remedial action plan to facilitate the

restoration, for approval by BCDC staff, and which may require additional monitoring, the authorization of an individual BCDC permit, or compensatory mitigation for the adverse impacts.

c. **Unexpected Tidal Marsh Impacts.** If an activity conducted under the authorization of this permit results in unexpected adverse impacts to tidal marsh or other sensitive habitats, the permittee shall immediately restore the project site, and conduct a survey of the impacted site. The permittee shall send a Restoration and Monitoring Plan (RMP) within 10 business days to BCDC documenting the impacts, restoration actions conducted, and monitoring plan. The RMP shall generally follow the guidelines and success criteria outlined in Special Condition II.C.6.b. The report and RMP shall be reviewed by BCDC staff within 20 business days of receipt. If BCDC staff do not respond to the permittee within 20 business days, the report and RMP shall be deemed approved.
A separate BCDC permit and/or compensatory mitigation may be required if the disturbed site is not restored to pre-construction condition or better within a year of the construction completion.

7. Eelgrass

No proposed activities that would significantly increase shading of eelgrass or result in fill in eelgrass habitat are authorized under this permit. Activities proposed on existing structures near (within 15-50 meters) eelgrass beds shall comply with the California Eelgrass Mitigation Policy and Implementing Guidelines published by NOAA Fisheries, West Coast Region, dated October 2014 or the latest version of the Guidelines, if updated. Eelgrass habitat is defined as areas of vegetated eelgrass cover (any eelgrass within 1 square meter quadrat and within 1 meter of another shoot) bounded by a 5-meter-wide perimeter of unvegetated area.

8. Environmental Work Windows

The permittee shall abide by work window restrictions in place at the time of the proposed activities, as appropriately determined by the California Department of Fish and Wildlife (CDFW), the U.S. Fish and Wildlife Service (USFWS), and/or the National Marine Fisheries Service (NMFS), to avoid and minimize adverse impacts to all federal and state-listed species and California species of special concern that may occur at a project site, including Ridgway's rail, black rail, California least tern, salt marsh harvest mouse, Chinook salmon, steelhead, longfin smelt, delta smelt, green sturgeon, white sturgeon and Pacific herring. Relevant work windows should be stated on all PNs submitted for review. An extension of the work window for a specific activity may be granted by the Executive Director, where applicable,

regarding additional minimization and avoidance measures that may be necessary to minimize impacts from proposed activities. The permittee may consult with BCDC staff on appropriate work windows whenever needed.

9. Mitigation for Environmental Impacts

Adverse environmental impacts caused by proposed activities authorized under this permit must be sufficiently minimized and avoided through construction methods and best management practices without the need for BCDC-required compensatory mitigation. Work that would require compensatory mitigation must be approved by a separate BCDC permit. Compensatory mitigation required by another agency pursuant to one or more of the permittee's programmatic permits or for adverse impacts to the environment outside of BCDC jurisdiction, do not necessarily exclude activities from coverage under BCDC's permit.

10. Creosote Treated Wood

No pilings or other wood structures that have been pressure treated with creosote shall be used in any area subject to tidal action in the Bay or any certain waterway, in any salt pond, or in any managed wetland within the BCDC jurisdiction as part of the activities authorized herein.

11. Other Agency Approvals

The permittee shall comply with all applicable conditions of approvals issued by the USACE, CDFW, and the State Water Resources Control Board (SWRCB) or San Francisco Bay Regional Water Quality Control Board (RWQCB), for any proposed activities conducted under the authorization of this permit. Where an activity would be covered by one or more of the following programmatic approvals with the SWRCB, CDFW, or USACE, the permittee shall comply with all conditions of those approvals.

- *Water Quality Order No. WQ 2023-0022-DWQ Waste Discharge Requirements and Clean Water Act Section 401 Water Quality Certification*, issued by the SWRCB, effective April 4, 2023.
- *Incidental Take Permit 2081-2015-031-03 for the PG&E Bay Area Operations and Maintenance Project*, issued by CDFW, dated July 6, 2022.
- *Regional General Permit 40 Pacific Gas and Electric Bay Area Operations and Maintenance Program*, issued by the USACE, signed June 22, 2023.

If a proposed Class II.A, II.B or III activity is covered by any of these three approvals, the permittee shall submit explanation and proof (if required by the other agency approval) of that activity's applicability as part of the PN. If any of these approvals expires during the term of this permit, or if any additional regulatory approvals,

permits, or consultations by the SWRCB, the RWQCB, CDFW, USFWS, or NMFS are required for any activity proposed to BCDC for review and approval under this permit, those issued approvals or consultations shall be required to complete an PN.

D. Property Interest

By accepting and exercising the permit, the permittee has represented to the BCDC that the permittee has adequate property interest in all areas subject to the permit and that if any issue arises with respect to property interest in any given instance of permit implementation, the permittee will cease all relevant activities until it has submitted requisite documentation substantiating its property interest documentation to the satisfaction of the Executive Director. If the property interest is not adequately substantiated, no work in that location is authorized to continue.

E. Public Access and Views

No activities that would result in permanent adverse impacts to public access or views of the Bay are authorized by this permit. When a proposed activity would result in temporary impacts to public access or views, they shall be avoided, minimized and mitigated (in that order of priority) to the maximum extent practicable. Temporary closures to public access areas are subject to activity review and may be allowed by staff when the closure is the minimum necessary, would be limited to 180 total days per activity and would be adequately mitigated for through detours, traffic control, and public notice. Public access areas impacted during construction shall be restored to their previous condition or better immediately following construction. If the BCDC staff, through the activity review process, determines that the temporary public access impacts of a proposed activity are not adequately minimized and mitigated in accordance with the above-specified criteria, then the activity shall be deemed not covered under the authorization of this permit.

III. Findings

This authorization is given on the basis of the Commission's findings and declarations that the proposed activities authorized herein, as conditioned, are consistent with the McAteer-Petris Act, the San Francisco Bay Plan (Bay Plan), the San Francisco Waterfront Special Area Plan (San Francisco Waterfront SAP), the California Environmental Quality Act (CEQA), and the Commission’s amended coastal zone management program for San Francisco Bay for the following reasons:

A. Project Purpose

This permit authorizes a program for the repair, maintenance, replacement, retirement, removal and modification of existing electrical and gas transmission facilities and accessory structures, and the installation of fences, gates, signs, interset structures

(poles installed in-line between existing poles or towers to support the existing lines) and other minor new equipment on or near the existing structures in the Commission's Jurisdiction, throughout the Bay Area. The program does not include activities that would change the use of an existing structure (besides the removal or retirement of structures) or result in significant increases of net Bay fill. The structures subject of this permit are distributed throughout the Bay Area (with the exception of the Suisun Marsh), in the Commission's Bay, Salt Ponds, Managed Wetlands, Certain Waterways, and 100-foot Shoreline Band Jurisdictions. A separate marsh development permit application has been submitted to cover the same types of activities in the primary management area of the Suisun Marsh.

This permit replaces a similar programmatic permit, M1987.074.017A, which authorized repairs and maintenance of the permittee's facilities throughout the Bay Area. M1987.074.17A was originally issued in 1987 for 10 years, and subsequently extended and modified by amendments until the permit expires on May 30, 2024. The permittee typically conducted hundreds of activities annually under the program authorized by M1987.074.17A. Commission staff determined in 2021, upon receipt of a time extension request for Permit M1987.074.17A, that the permit was out of date because of the changes in Commission regulations, the Bay Plan, the state of the Bay, environmental conditions, engineering codes and standards, and the types of activities conducted by the permittee. Additionally, this new permit authorizes a wider range of activities than the previous programmatic permit, and includes a new activity review process to better ensure BCDC's ability to review activities individually and year-to-year for consistency with the permit terms and conditions.

In 1987, the Executive Director determined that the activities authorized in M1987.074.00 qualified for an administrative permit, as each individual activity was defined as a "minor repair or improvement" for which the Executive Director may issue a permit. Upon re-evaluation as part of the current permit application process, the Executive Director determined that although the individual activities authorized by this permit could be found consistent with the categories of minor repairs and improvements defined by Regulation Section 10601, over the 5 years of authorization, the program would result in far more projects than should be construed as qualifying for an administrative permit, and therefore the application warranted a Commission hearing and vote as a major permit application. In other words, although each individual instance of activity authorized under this permit may be deemed to qualify as a "minor repair or improvement" as defined by Regulation Section 10601, *cumulatively* the authorization for all of the activities over a 5-year period removes the project proposal from within the scope of this regulation.

B. Permit Structure

This permit authorizes a program of activities the permittee may conduct over a wide area, and over a five-year duration. The activities are generally for the repair and maintenance of existing structures and the permittee expects hundreds of activities to be conducted under this permit authorization each year. Some of these activities are planned well in advance, but others are responses to unexpected situations, and therefore, the permittee cannot comprehensively predict what activities will be conducted in the future.

The authorization section of this permit includes broad categories of activities that are generally limited to repairs, maintenance, replacements, removals, and retirements of existing structures, installation of new structures on existing structures, and temporary fill placement and land use during those activities. The authorized activities are confined to those that can be adequately conditioned by this permit without comprehensive plans and specific project information. To ensure that the activities conducted by the permittee under this permit authorization are consistent with the permit, an activity review process has been developed for all activities except those that can reasonably be expected to have no significant adverse impacts to the Bay environment or public access (Class I). All other activities (Classes II and II) must be approved by BCDC staff prior to their undertaking. To track the usage of this permit, the permittee is required to submit annual reports including information on all projects conducted and projects proposed for the future. The permit authorizes the activities for five years, after which the permittee may apply for time extension.

C. Use

The operations and maintenance program authorized by this permit include activities on existing facilities in port, water-related industry, water-oriented recreation, airport and wildlife refuge priority use areas and in salt ponds and managed wetlands. The proposed activities are directly related to existing gas and electrical transmission facilities that pre-date BCDC or have been permitted by BCDC. The activities will not increase the use of, change the use of, or add new uses to these facilities and shall not significantly change the location or design of the existing structures, besides removing and retiring some structures. The removals and replacements will not significantly change the permittee's gas and electrical transmission system. Therefore, the activities are consistent with applicable provisions of the McAteer-Petris Act, as well as Bay Plan policies, as further discussed below.

D. Bay Fill

Applicable Policies

Section 66605 of the McAteer-Petris Act provides that further filling of the Bay may be authorized when public benefits from fill clearly exceed public detriment from the loss of the water areas and should be limited to water-oriented uses (such as ports, water-related industry, airports, bridges, wildlife refuges, water-oriented recreation, and public assembly, water intake and discharge lines for desalinization plants and power generating plants requiring large amounts of water for cooling purposes) or minor fill for improving shoreline appearance or public access to the bay.

Bay Plan Other Uses of the Bay and Shoreline Policy No. 5 states: *High voltage transmission lines should be placed in the Bay only when there is no reasonable alternative. Whenever high voltage transmission lines must be placed in the Bay or in shoreline areas: a. New routes should avoid interfering with scenic views and with wildlife, to the greatest extent possible; and b. The most pleasing tower and pole design possible should be used. High voltage transmission lines should be placed underground as soon as this is technically and economically feasible."*

Analysis

Although similar in nature to the intake and discharge lines at utility stations, PG&E's facilities are not specifically identified in Section 66605. However, the Bay Plan Fills in Accord with the Bay Plan notes that Commission approval of fill in the Bay is contingent, in part, on whether a project meets its policies "as to purposes for which some fill may be needed…(i.e.,...utility routes)," and, further, if such projects have no upland alternative and involve the minimum fill necessary (discussed further below).

The activities authorized in this permit are generally limited to replacement and maintenance activities which will result in insignificant net fill, and removal of Bay fill. Some activities may result in new Bay fill when an existing structure is replaced, however, these activities are prohibited from resulting in significant net fill increases and would effectively replace existing fill for which no new impacts to Bay resources would be expected. The permittee has estimated that as a result of boardwalk, tower, pole and pipeline replacements, approximately 148 cubic yards of new fill will be placed in BCDC jurisdiction annually, but those activities will also involve equal or greater fill removal of existing structures and thus not increase net fill.

Where there is new fill, that fill will be placed for the purpose of maintaining, repairing, and improving the Baywide power grid. These activities are essential to avoiding failures of electrical and gas delivery to the public throughout the Bay, and the collapse of towers into tidal marshes and highways. Therefore, the public benefits of the new fill also clearly exceed the public detriment.

Other activities may result in the installation of new equipment on existing structures (such as the installation of security gates on boardwalks and upgrade of electrical components on towers) but the Special Conditions limit these activities to: insignificant increases in the size of the structure, activities which involve the minimum quantity of fill necessary for the purpose of the activity, and activities which do not have an alternative upland location.

Temporary fill may be placed in the Commission's jurisdiction when necessary for project site access and staging. Special Conditions are included to limit the duration of the temporary fill to fewer than 180 days, and to require site restoration after the activity. The activity review process (Special Condition II.A) allow staff to review activities for consistency with the permit authorization and conditions.

Generally, structures that are replaced will be rebuilt in the same approximate location as the original. However, transmission line towers and poles may be replaced and relocated when the new location would be out of the Bay or Certain Waterway Jurisdictions, or the new structure would have significantly less fill or would have significant public access improvements compared to the existing structure. In most relocation cases, the existing towers are situated in the Bay or within the shoreline band, and are presently viewable from public areas. Special Condition II.E excludes activities that would result in permanent adverse impacts to public access of scenic views.

Fills authorized by this permit are for the purpose of repairing, maintaining and upgrading existing gas and electrical transmission facilities. Many of the permittee's existing electrical and gas transmission facilities are located in the Bay, Certain Waterways, salt ponds, and managed wetlands, and many of these facilities were placed prior to the existence of BCDC. In some cases, existing facilities in the Bay will be relocated to upland locations, but others cannot be feasibly relocated out of the Bay because of the overall, existing transmission routes. For example, the relocation of some towers in the Bay would require additional relocation of the other towers on that route. In some cases, the relocation of towers outside of Bay jurisdiction would require constructing the towers farther apart, requiring much taller replacement towers to maintain line clearance over the Bay.

The Commission has previously found utility lines to be water-oriented and, thus, consistent with Section 66605 of the McAteer-Petris Act. Similarly, the Commission finds that the project authorized herein is a water-oriented use and, thus, is consistent with the McAteer-Petris Act.

E. Environmental Impacts

Applicable Bay Plan Policies

The Bay Plan Tidal Marshes and Tidal Flats Policy No. 1 states: "*Tidal marshes and tidal flats should be conserved to the fullest possible extent. Filling, diking, and dredging projects that would substantially harm tidal marshes or tidal flats should be allowed only for purposes that provide substantial public benefits and only if there is no feasible alternative."*

The Bay Plan Fish, Other Aquatic Organisms and Wildlife Policy No. 1 states that *"to assure the benefits of fish, other aquatic organisms and wildlife for future generations, to the greatest extent feasible, the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased."*

The Bay Plan Fish, Other Aquatic Organisms and Wildlife Policy No. 4 states, in part, that *"the Commission should consult with the California Department of Fish and [Wildlife] and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service whenever a proposed project may adversely affect an endangered or threatened plant, fish, other aquatic organism or wildlife species…and give appropriate consideration of (their) recommendations in order to avoid possible adverse impacts of a proposed project on fish, other aquatic organisms and wildlife habitat."*

The Bay Plan Mitigation Policy No. 1 states: *"Projects should be designed to avoid adverse environmental impacts to Bay natural resources such as to water surface area, volume, or circulation and to plants, fish, other aquatic organisms and wildlife habitat, subtidal areas, or tidal marshes or tidal flats. Whenever adverse impacts cannot be avoided, they should be minimized to the greatest extent practicable. Finally, measures to compensate for unavoidable adverse impacts to the natural resources of the Bay should be required. Mitigation is not a substitute for meeting the other requirements of the McAteer-Petris Act."*

Analysis

The permittee is authorized to conduct activities in tidal marshes and in the Bay where electrical and gas facilities currently exist. The structures most commonly occurring in tidal marshes are electrical transmission towers and boardwalks built to access the towers. Many of these towers were built in the early 20th century, prior to BCDC's existence, and are reaching the end of their lifespans, with frequent need for structural repair and replacement. This permit authorizes repairs, maintenance and replacement of existing towers, boardwalks, and other structures without significant permanent impacts to the surrounding tidal marsh, removal of structures from tidal marshes, the temporary placement of construction matting in tidal marsh for access to the structures, and removal and trimming of tidal marsh vegetation for site access.

The Special Conditions limit the allowance of activities only to those that would result in impacts that can be adequately avoided and minimized through project planning, the implementation of best management practices, and site restoration. Special Condition II.A.3 Limits to Authorized Activities specifically defines and restricts activities to avoid permanent significant adverse environmental impacts, and permanent adverse impacts to public access and views. To protect tidal marsh from new permanent impacts, Special Condition II.A.3 requires that when a structure in tidal marsh is replaced, it must be replaced in the same location unless the replacement and relocation results in significant improvements to public access or significant reduction in Bay Fill. To protect tidal marsh from the abandonment of structures, Special Condition II.A.3 requires the complete removal of old structures unless the complete removal would result in greater adverse impacts to the environment or public access than the retirement, in whole or in part, and the retirement of structures is only permitted for underground structures that will remain inert in the future.

Additional special conditions are included in this permit to address specific activities which could adversely effect the Bay environment:

Special Condition II.C.1 Best Management Practices. This condition requires the permittee to implement best management practices to conserve tidal marsh and subtidal habitats.

Special Condition II.C.2 Tidal Marsh Protection. This condition requires the permittee implement tidal marsh-specific measures to conserve tidal marsh habitats and listed species in tidal marshes.

Special Condition II.C.3 Temporary Fill. This condition limits the placement of temporary fill to situations that preclude an alternative upland location for the fill, and limit the fill placement to fewer than 180 days per project. This condition is included to ensure that permanent fill is not placed in tidal marsh and subtidal areas.

Special Condition II.C.4 Pile-Driving. This condition requires the permittee to comply with measures to limit the noise impacts of this activity to avoid the take of fish, birds, and other wildlife.

Special Condition II.C.5 Shoreline Protection Material, Placement, and Maintenance. This condition specifies the type of material and design of riprap that may be used to ensure that riprap revetments are structurally stable, and will not collapse into subtidal or tidal marsh habitats.

Special Condition II.C.6 Site Restoration. All activities which may temporarily adversely affect tidal marsh environments are authorized when the impacted areas are expected to passively restore to the pre-project condition within two years, without the need for active vegetation seeding or planting. To ensure that the impacts to tidal marshes are

temporary, the permittee is required to monitor the effected projects sites for vegetation cover. If permanent adverse impacts to tidal marshes inadvertently result from the activities conducted under this permit, Special Condition II.C.E requires the permittee to provide compensatory mitigation for those impacts, which implementation may warrant a permit amendment or new permit.

Special Condition II.C.7 Eelgrass. As a valuable and sensitive subtidal plant, NMFS recommends no net loss of eelgrass in California. To completely avoid the possibility of adverse impacts to eelgrass, this condition restricts activities from increasing overwater shading of eelgrass habitat or new fill in eelgrass habitat.

Special Condition II.C.8 Environmental Work Windows. Activities conducted throughout the Bay Area may occur in the vicinity of the habitat of listed species. To avoid take of these species, this special condition requires the permittee to abide by the appropriate work windows for the species at each project site. These work windows cannot be specified in the permit condition, as they differ by species, type of activity and location, and may change in the future. Instead, the permittee and BCDC staff will consult with other agencies for work window recommendations on a project specific basis.

Special Condition II.C.9 Mitigation for Environmental Impacts. Bay Plan Policies require adverse impacts to the environment to be avoided and minimized before they are compensated for through mitigation. As this permit is designed to authorize future, yet-to-be-determined projects, it is not possible to find that compensatory mitigation for unknown projects would be consistent with the BCDC laws and policies, therefore, no activities that are expected to likely require compensatory mitigation are authorized.

Special Condition II.C.10 Creosote Treated Wood. This condition is included to protect the Bay environment from leaching of creosote.

Special Condition II.C.11 Other Agency Approvals. Prior to the filing the application for this permit, the permittee obtained permits from other regulatory agencies with jurisdiction over the activities in question. In 2023, the USACE issued to the permittee Regional General Permit 40 for a Bay Area Operations and Maintenance Program covering the same scope of activities authorized by this permit. The USACE Regional General Permit 40 requires the permittee to comply with the terms and conditions of the formal consultations issued by NMFS and USFWS for the program. In 2022, CDFW also issued an Incidental Take Permit to the permittee for an operations and maintenance program of gas and electrical transmission facilities in the Bay Area. In 2023, the State Water Resources Control Board issued a Water Quality Order and Certification for the same scope of activities as the Operations and Maintenance Program covered under this permit. Most activities conducted under the permit are expected to be covered by the above-mentioned permits, however, when an activity is not covered by any of these permits, the permittee is required to obtain all relevant and

necessary permits and consultations required by Commission laws and policies (as for an individual permit) prior to conducting the activities. Special Condition II.C.11 requires the permittee to comply with all conditions of the three programmatic approvals mentioned above, and to obtain all additional approvals necessary for activities.

Therefore, the activities authorized by this permit comply with all applicable Bay Plan policies on the Bay environment.

F. Activity Review and Approval

To ensure that the permittee conducts activities in compliance with the conditions of this permit and does not exceed the authorizations of this permit, the permittee is required to submit project notifications for most activities, for approval by Commission staff. A limited category of activities (Class I) that have been determined to be *de minimis*, and are not expected to have any significant temporary or permanent adverse effects to the environment or public access to the Bay, are exempted from the project notification process. Class II.A projects are limited to activities in the 100-foot Shoreline Band that will not involve any adverse impacts to public access. Class II.B projects are limited to activities in the 100-foot Shoreline Band that may have temporary adverse impacts to public access. Class III projects include all activities consistent with the permit authorizations and conditions that do not qualify for the other classes.

The permittee is required to submit Project Notifications (PN), containing all relevant information on a project (Exhibit A) for all Class II.A, II.B. and III activities. BCDC staff shall review the PN for consistency with the permit, and reply to the permittee within a specified timeframe to approve a project as consistent with the permit, inform the permittee that the project does not qualify for this permit, or inform the permittee that the Project Notification is incomplete. The timelines for BCDC staff to respond to a Project Notification is dependent on the project Class, and were determined based on the complexity of the project and time needed for BCDC staff review.

Additionally, the permittee is required to submit an annual report (Special Condition II. A.5) to the Commission to report on the projects completed in the past and expected in the future. The annual report requires information to allow the Commission to evaluate the cumulative effects of the program and track compliance with the special conditions.

G. Public Access

Applicable Policies

Section 66602 of the McAteer-Petris Act states, in part, that *"maximum feasible public access, consistent with a proposed project, should be provided,"* and Section 66632.4 states, in part, that *"within any portion or portions of the shoreline band that are located outside the boundaries of water-oriented priority land uses…the commission may deny*

an application for a permit for a proposed project only on the grounds that the project fails to provide maximum feasible public access, consistent with the proposed project, to the bay and its shoreline."

Bay Plan policies on Public Access state, in part, that *"a proposed fill project should increase public access to the Bay to the maximum extent feasible"* (Policy No. 1), that *"maximum feasible access to and along the waterfront and on any permitted fills should be provided in and through every new development in the Bay or on the shoreline"* (Policy No. 2), and that *"whenever public access to the Bay is provided as a condition of development, on fill or on the shoreline, the access should be permanently guaranteed"* (Policy No. 7).

The McAteer-Petris Act and Bay Plan policies must be read in light of court decisions that have established that a public agency must show a nexus, or essential connection, between any requirements included as a condition of a permit and the public burden created by a private development project, and that the condition must be roughly proportional to the burden.

Analysis

The permit authorizes repair and maintenance activities that involve: no new structures or increased use of existing structures, no significant net fill placed in the Bay, and no permanent adverse effects to public access. Therefore, there is no new burden imposed on existing public access or increase in demand for public access that would create a nexus to require the permittee to provide public access as part of the covered activities. Temporary adverse impacts to public access may result from the authorized activities, such as the closure of public access areas on the shoreline, and the disruption of public views. Special Condition II.E is included to limit public access area closures to fewer than 180 days per project instance, and require the permittee avoid, minimize, and mitigate (in that order) any temporary public access impacts. Therefore, the project is consistent with the Commission's laws and policies concerning Public Access.

H. Environmental Justice and Social Equity

Applicable Policies

Bay Plan policies on Environmental Justice and Social Equity state, in part: "Equitable, culturally-relevant community outreach and engagement should be conducted by local governments and project applicants to meaningfully involve potentially impacted communities for major projects and appropriate minor projects in underrepresented and/or identified vulnerable and/or disadvantaged communities, and such outreach and engagement should continue throughout the Commission review and permitting processes. Evidence of how community concerns were addressed should be provided. If such previous outreach and engagement did not occur, further outreach and engagement should be conducted prior to Commission action." (Policy No. 3) "If a

project is proposed within an underrepresented and/or identified vulnerable and/or disadvantaged community, potential disproportionate impacts should be identified in collaboration with the potentially impacted communities. Local governments and the Commission should take measures through environmental review and permitting processes, within the scope of their respective authorities, to require mitigation for disproportionate adverse project impacts on the identified vulnerable or disadvantaged communities in which the project is proposed" (Policy No. 4).

Analysis

The proposed activities may occur near underrepresented, socially vulnerable, and disadvantaged communities. The purpose of the proposed activities is to maintain energy transmission facilities in the Bay Area, and will not result in significant changes in use of existing facilities beside the cessation of use of old facilities. Therefore, impacts to nearby communities are not expected to result from the proposed activities.

I. Property Interest

Applicable Policies

The Commission's Regulations Section 10310 require a completed application form before the Commission may file a permit application. The Application form (Appendix D) states: "Provide documentation of property interests, such as a copy of a grant deed, lease or easement, and Conditions Covenants and Restrictions, for a homeowner's association, that demonstrates that the owner or applicant has adequate legal interest in the property to undertake the proposed project."

The McAteer-Petris Act section 66605(g) states: "That fill should be authorized when the applicant has such valid title to the properties in question that he or she may fill them in the manner and for the uses to be approved."

Analysis

This permit authorizes a program of activities that may be undertaken throughout the Bay Area, at facilities operated by the permittee. During the application process, the permittee explained that its property interests include fee-owned properties, easements, franchise agreements, tariff rules, agency permits and licenses, and prescriptive easements, and that *"it would thus be infeasible to provide land rights for every facility within the area of the programmatic permits."* Instead, the permittee has represented to the BCDC that the permittee has adequate property interest in all areas subject to the permit. Special Condition II.D is included in that event that the permittee's interest in a property which is subject to an activity under this permit is in question, the permittee shall cease the activity at that location until the necessary property interest documentation is submitted to and reviewed by BCDC for concurrence that the permittee has the requisite property interest to continue its activities.

J. Public Trust Uses

The permit authorizes repair and maintenance of existing structures located on unfilled and filled tidelands and submerged lands subject to the public trust. Many of the structures pre-date BCDC, and are part of a regional electrical and gas transmission system. Though the use of public trust lands for these structures may not be consistent with the public trust needs, as discussed in Section III.D Bay Fill, this use pre-dates the Commission, the permit would not increase the use or size of the structures, most of the structures do not interfere with trust use of the general area, and relocation of the structures out of lands subject to the public trust is not feasible without great restructuring of the electrical and gas transmission systems. Therefore, these activities will not significantly impact the public trust.

K. Coastal Zone Management Act

The Commission further finds, declares, and certifies that the activity or activities authorized herein are consistent with the Commission's Amended Management Program for San Francisco Bay, as approved by the Department of Commerce under the Federal Coastal Zone Management Act of 1972, as amended.

L. Environmental Review

On June 21, 2022, the California Department of Fish and Wildlife, as the lead agency under the California Environmental Quality Act (CEQA) for the activities covered under this permit, certified an environmental impact report (State Clearinghouse No. 2017122028) for the Pacific Gas and Electric Company Bay Area Operations & Maintenance Incidental Take Permit and filed a Notice of Determination (NOD) at the State Clearinghouse on July 7, 2022.

M. Enforcement Program and Civil Penalties

The Commission has an enforcement program that reviews its permits for compliance. The Commission may issue cease and desist and civil penalty orders if violations are discovered. The McAteer-Petris Act provides for the imposition of administrative civil penalties ranging from $10 to $2,000 per day up to a maximum of $30,000 per violation. The Act also provides for the imposition of court-imposed civil penalties of up to $30,000 in addition to any other penalties, penalties for negligent violations of between $50 and $5,000 per day, knowing and intentional penalties of between $100 and $10,000 per day, and exemplary penalties, which are supplemental penalties, in an amount necessary to deter future violations. In addition, anyone who places fill, extracts materials, or makes any substantial change in use of any water, land or structure within the area of the Commission’s jurisdiction without securing a permit from the Commission is guilty of a misdemeanor.

IV. Standard Conditions

A. Permit Execution

This permit shall not take effect unless the permittees execute the original of this permit and return it to the Commission within ten days after the date of the issuance of the permit. No work shall be done until the acknowledgment is duly executed and returned to the Commission.

B. Notice of Completion

The attached Notice of Completion and Declaration of Compliance form shall be returned to the Commission within 30 days following completion of the work.

C. Permit Assignment

The rights, interests, and obligations contained in this permit are assignable in full or in part. This permit shall be assigned within thirty (30) days whenever: (a) the permittee transfers any interest in any real property on which an activity is authorized by a permit to occur; or (b) reassignment is necessary to achieve full compliance with one or more conditions of a permit. To assign this permit, the permittee-assignor and the assignee shall execute and submit for review and approval by Commission counsel a permit assignment document executed and dated by the assignor and assignee or their authorized representatives that contains all of the information specified in section 10830(a) of the Commission's regulations (14 C.C.R. § 10830(a)) and that also complies with sections 10830(b) or 10830(c), if applicable.

D. Permit Runs with the Land

Unless otherwise provided in this permit, the terms and conditions of this permit shall bind all future owners and future possessors of any legal interest in the land and shall run with the land.

E. Other Government Approvals

All required permissions from governmental bodies must be obtained before the commencement of work; these bodies include, but are not limited to, the U. S. Army Corps of Engineers, the State Lands Commission, the Regional Water Quality Control Board, and the city or county in which the work is to be performed, whenever any of these may be required. This permit does not relieve the permittees of any obligations imposed by State or Federal law, either statutory or otherwise.

F. Built Project must be Consistent with Application

Work must be performed in the precise manner and at the precise locations indicated in your application, as such may have been modified by the terms of the permit and any plans approved in writing by or on behalf of the Commission.

G. Life of Authorization

Unless otherwise provided in this permit, all the terms and conditions of this permit shall remain effective for so long as the permit remains in effect or for so long as any use or construction authorized by this permit exists, whichever is longer.

H. Commission Jurisdiction

Any area subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission under either the McAteer-Petris Act or the Suisun Marsh Preservation Act at the time the permit is granted or thereafter shall remain subject to that jurisdiction notwithstanding the placement of any fill or the implementation of any substantial change in use authorized by this permit. Any area not subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission that becomes, as a result of any work or project authorized in this permit, subject to tidal action shall become subject to the Commission's "bay" jurisdiction.

I. Changes to the Commission's Jurisdiction as a Result of Natural Processes

This permit reflects the location of the shoreline of San Francisco Bay when the permit was issued. Over time, erosion, avulsion, accretion, subsidence, relative sea level change, and other factors may change the location of the shoreline, which may, in turn, change the extent of the Commission's regulatory jurisdiction. Therefore, the issuance of this permit does not guarantee that the Commission's jurisdiction will not change in the future.

J. Violation of Permit May Lead to Permit Revocation

Except as otherwise noted, violation of any of the terms of this permit shall be grounds for revocation of the permit. The Commission may revoke the permit for such violation after a public hearing held on reasonable notice to the permittees or their assignees if the permit has been effectively assigned. If the permit is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structure placed pursuant to this permit shall be removed by the permittees or their assignees if the permit has been assigned.

K. Should Permit Conditions be Found to be Illegal or Unenforceable

Unless the Commission directs otherwise, this permit shall become null and void if any term, standard condition, or special condition of this permit shall be found illegal or unenforceable through the application of statute, administrative ruling, or court determination. If this permit becomes null and void, any fill or structures placed in reliance on this permit shall be subject to removal by the permittees or their assignees if the permit has been assigned to the extent that the Commission determines that such removal is appropriate. Any uses authorized shall be terminated to the extent that the Commission determines that such uses should be terminated.

L. Indemnification by Applicants and Liability for Costs and Attorneys Fees

By acceptance of this permit, the permittee agrees to reimburse BCDC in full for all: (1) reasonable BCDC staff time, calculated using reasonable hourly rates; and (2) BCDC costs and attorneys fees - including (a) those charged by the Office of the Attorney General, and (b) any court costs and attorneys fees that BCDC may be required by a court to pay - that BCDC incurs in connection with the defense of any action brought by a party other than the permittee against BCDC or any of its officers or employees challenging the approval or issuance of this permit. As part of any request for reimbursement, BCDC will provide an itemized accounting of the reasonable BCDC staff time and BCDC costs and attorneys fees for which BCDC is requesting reimbursement, and permittee shall make payment within 30 days of receiving a reimbursement request. BCDC retains complete authority to conduct and direct the defense of any legal action initiated against the agency.

M. Permission to Conduct Site Visit

The permittees shall grant permission to any member of the Commission's staff to conduct a site visit at the subject property during and after construction to verify that the project is being and has been constructed in compliance with the authorization and conditions contained herein. Site visits may occur during business hours without prior notice and after business hours with 24-hour notice.

N. Abandonment

If, at any time, the Commission determines that the improvements in the Bay authorized herein have been abandoned for a period of two years or more, or have deteriorated to the point that public health, safety or welfare is adversely affected, the Commission may require that the improvements be removed by the permittees, their assignees or successors in interest, or by the owner of the improvements, within 60 days or such other reasonable time as the Commission may direct.

O. **Best Management Practices**

1. Debris Removal
   All construction debris shall be removed to an authorized location outside the jurisdiction of the Commission. In the event that any such material is placed in any area within the Commission's jurisdiction, the permittees, their assignees, or successors in interest, or the owner of the improvements, shall remove such material, at their expense, within ten days after they have been notified by the Executive Director of such placement.

2. Construction Operations
   All construction operations shall be performed to prevent construction materials from falling, washing or blowing into the Bay. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittees shall immediately retrieve and remove such material at their expense.

P. **In-Kind Repairs and Maintenance**

Any in-kind repair and maintenance work authorized herein shall not result in an enlargement of the authorized structural footprint and shall only involve construction materials approved for use in San Francisco Bay. Work shall occur during periods designated to avoid impacts to fish and wildlife. The permittees shall contact Commission staff to confirm current restricted periods for construction.

Exhibit A. Permit Notification Requirements

Contents of a Project Notification for Class II and Class III Activities:

1. Project Information
    a. Project notification name.
    b. Unique permit notification identifier.
    c. PG&E point of contact.
2. Activities
    a. Activity class.
    b. BCDC jurisdictional area.
3. Project Description
    a. Including summary of project need, project description, equipment needed, and any in-water work required.
    b. Type and quantity of facilities maintained (e.g., quantity of pole replacements, new poles, towers replaced, new towers, trees felled, etc.)
    c. Construction schedule.
    d. Narrative description of activity location.
    e. Latitude and longitude.
4. Access
    a. Onsite lead name and phone number, if known.
    b. Narrative description of site access, including any offroad travel or helicopter use.
5. Vegetation Management
    a. Narrative description of any vegetation management needed.
6. Ground disturbance and fill information.
    a. Narrative description of any ground disturbance.
    b. Anticipated area ground disturbance.
    c. Area/volume of temporary/permanent fill/extraction.
7. Public Access
    a. Narrative description of impacts to public access features and associated avoidance and minimization measures (e.g., encroachment permits, traffic control plans, etc.)
8. Biological Resources Summary
    a. Narrative description of whether biological resources are present, whether biological surveys were performed or are prescribed, and a summary biological constraints report.
9. Other Agency Approvals
    a. Narrative summary of project applicability for programmatic CDFW, USACE and RWQCB permits.

b. Narrative description of any other required discretionary permit or approvals from USFWS, NMFS, USACE, CDFW, RWQCB, DTSC, or local government.

Attachments

a. Biological Constraints Report
    i. Site characteristics and habitats
    ii. Potential adverse impacts
    iii. Avoidance and minimization measures
    iv. Site restoration
    v. Figures of project vicinity showing: marshes, wetlands, mudflats, eelgrass, and critical habitats
b. Site Plans
    i. Construction drawing
    ii. Vicinity map (.kmz file OK)
    iii. Site plan with:
        a) property lines
        b) existing and proposed structures or improvements
        c) the shoreline and the corresponding 100-foot shoreline band
            i) If topographic survey is available, Mean High Water or 5 feet above Mean Sea Level in tidal marsh.
            ii) If topographic survey is not available, location of shoreline using approximate methods.
        d) Scale
        e) North arrow
        f) Date
        g) Name of the person who prepared the plans
c. Photographs
    i. Project site
    ii. Sensitive habitats within or immediately adjacent to activity footprint
    iii. Public access features within or immediately adjacent to activity footprint
d. Restoration and Monitoring Plan (RMP)
    i. Details of requirements in Special Condition II.C.6

Exhibit B. Best Management Practices

PG&E Standard BMPs for BCDC Jurisdiction

Measure type	Specific BMP
Dust control	• Apply water as needed • Limit vehicle speed to 15 miles per hour • Cover loads • Clean track-out daily
Parking	• Park on pavement, existing roads, and previously disturbed areas to the extent practicable. • Avoid parking on dry vegetation. • Carry water or fire extinguisher and shovel during dry conditions.
Access	• Vehicles and equipment must use pavement, existing roads, and previously disturbed areas to the extent practicable. • Keep off-road travel, blading, and vegetation clearing to the minimum extent necessary for safe vehicle/equipment access.
Trash	Place all activity and food-related trash in a covered receptacle and remove from the activity area daily.
Refueling	• No vehicles or heavy equipment will be refueled within 100 feet of a wetland, stream, or other waterway, or within 250 feet of vernal pools, unless secondary containment is used. • Vehicles will carry adequately stocked spill kits and staff must be trained in their use. • The fueling operator must always stay with the fueling operation. • Do not top off tanks.
Bird nests	Bird nests with eggs and/or chicks will not be disturbed; contact a biologist or the Avian Protection Program Manager for further guidance.
Wildlife entrapment	Inspect pipes, culverts and other construction material and equipment for wildlife prior to moving them.
Waterway crossings	Vehicles and equipment may cross streams and wetlands only via existing roads and crossings. When possible, activities near streams, wetlands, or on saturated soils should be conducted during the dry season. If work is necessary during the rainy season, it should be conducted during dry spells between rain events. Vehicles and equipment must be checked and maintained daily to prevent leaks.
Vernal pools	If overland access or ground disturbing work is planned within 250 ft. of any water feature, contact a PG&E Biologist.
Wildlife sighting	No wildlife or plant species will be handled or removed from activity areas.
Invasive Species	Clean all vehicles, equipment, clothing, etc. of material potentially containing noxious weeds/seeds prior to entering and existing work locations. Cleaning can be accomplished by brushing, washing, or blowing with compressed air.
Waterways	Cleared or pruned vegetation, woody debris (including chips), and lose or exposed soil, must be disposed of in a manner to ensure that these materials do not enter surface water or a water feature.
Cultural Resource Inadvertent Discovery	If any cultural resources are identified during PG&E activities, stop all work in the vicinity of the discovery and immediately notify the PG&E Cultural Resources Specialist. Archaeological and historic-period resources in the region may include: • Archaeological materials: flaked stone tools (projectile point, biface, scraper, etc.) and debitage (flakes) made of chert, obsidian, etc., groundstone milling tools and fragments (mortar, pestle, handstone, millingstone, etc.), faunal bones, fire- affected rock, dark middens, housepit depressions and human interments. • Historic-era resources: may include, but are not limited to, small cemeteries or burial plots, cut (square) nails, containers or miscellaneous hardware, glass fragments, cans with soldered seams or tops, ceramic or stoneware objects or fragments, milled or split lumber, earthworks, feature or structure remains and trash dumps.
Herbicide	Herbicides will be applied in a manner to avoid drift, will be stored and transported in a manner to prevent spilling, and will be applied to target species only. Applications must not be made in, immediately prior to, or immediately following rain.

Measure type	Specific BMP
Environmental Field Specialist (EFS) Notification	Immediately contact the local EFS and stop work if any of the following conditions occur: • Discharge or spill of a hazardous substance • Visually cloudy/muddy water is observed leaving the work area • Need for dewatering • An underground storage tank is discovered • Potential naturally occurring asbestos (fibrous or flaky rock that can be green, brown, reddish brown, grey and/ or black, may appear waxy or shiny and feel soapy) is identified during excavation • A subsurface component related to site remediation activities (e.g., monitoring well, recovery well, injection well) is discovered or • Unanticipated evidence of contamination is identified (e.g., staining, unusual odors)
Stormwater Runoff	• Properly handle, store, and use materials to prevent soil contamination or discharge from site. • Store liquid materials in watertight container with appropriate secondary containment or in a fully enclosed storage shed. • Barricade or cover storm drains with impervious material during demolition activities that involve liquid pollutants or chemicals. • Minimize dry pollutants exposure to precipitation. • Install stabilized entrances and/or implement street sweeping to prevent track out to paved surfaces. • Cover or barricade drains within reasonable proximity to the work area during concrete work. Provide appropriate washout containment and train personnel to wash equipment and tools into the containment BMP. Re-schedule concrete work if rain is forecast. Use vacuum to collect concrete cuttings or slurry and dispose of properly. • Portable toilets must be placed at least 50 feet away from water features, have trays to contain spills and minor leaks, stabilizing features to prevent tipping, and serviced regularly. • Provide waste receptacle (dumpster) adequate in size. Cover all waste containers at end of each day and prior to rain events. Do not allow rinse or wash water (concrete rinse, paint wash, etc.) to contact the ground and/or paved surfaces nor allow rinse or wash water to be directed or dumped into any drain inlet or surface water and properly dispose of all rinse and/or wash water. • Maintain vehicles and equipment in good working condition. Perform fueling and maintenance activities only in areas fitted with appropriate BMPs. Maintain spill kits on-site in case of spill.
Stockpile management	• Protect stockpiles from wind, rain, and non-storm water runoff. • Prevent stockpile pollution (from weather, wind, access/tracking, etc.) by ensuring management materials (i.e., cover, tie down supplies, run-on barriers and runoff barriers) are always available. Protect stockpiles with an upslope and downslope barrier (i.e., biodegradable fiber rolls, gravel bags, etc.). • Keep a minimum separation of 50 feet between stockpiles and concentrated flows of storm water, drainage courses, and storm drain inlets. If space is limited, additional diversion or protection will be implemented. • Contain runoff from high-risk stockpiles (i.e., cold mix asphalt, concrete, contaminated soil, etc.). • Locate high risk stockpiles on impervious surfaces and in areas without run-on and monitor for potential pollutant discharges. If not possible, provide a diversion or berm. If a pollutant discharge is probable, contact the EFS. • Bag and place high risk materials on pallets and store under cover if possible.
Erosion and Sediment Control	• Schedule activities to minimize soil disturbance during rain. • Preserve existing vegetation by limiting the work area and limiting disturbed soil areas to the extent practicable. • Provide sediment control (i.e., biodegradable fiber rolls, gravel bags, etc.) downslope of any soil disturbances. • Protect drainage inlets within 50 feet of any soil disturbances. • Cover all excavations at the end of each workday. • Ensure that exposed soils are protected from erosion if rain occurs or is forecast. • Inspect BMPs daily and maintain, replace, or repair as necessary.
Restoration	• Remove all temporary, non-biodegradable BMPs, and clear debris and construction materials. • Stabilize all activity-related disturbed soils and return the area to pre-activity conditions or equivalent which may include pavement, concrete, gravel/rock, landscaping, soil cover, seeding, or agricultural conditions. • Return activity area to pre-existing conditions to the maximum extent possible.

Bay Area Habitat Conservation Plan (HCP) AMMs and BMPs

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species

Staff Responsible	Code	Description of Measure	Applicable Covered Species
Field Protocols			
Training			
HCP Team	FP-01	Hold annual training on habitat conservation plan requirements for employees and contractors performing covered activities in the Plan Area that are applicable to their job duties and work.	All covered species
Access and Worksite Management			
Field Crew	FP-02	Park vehicles and equipment on pavement, existing roads, or other disturbed or designated areas (barren, gravel, compacted dirt).	All covered species
Field Crew	FP-03	Use existing access and ROW roads. Minimize the development of new access and ROW roads, including clearing and blading for temporary vehicle access in areas of natural vegetation.	All covered species
Field Crew	FP-04	Locate off-road access routes and work sites to minimize impacts on plants, shrubs, and trees, small mammal burrows, and unique natural features (e.g., rock outcrops).	All covered species
HCP Team, Land Planners	FP-05	Notify conservation landowner at least 2 business days prior to conducting covered activities on protected lands (state and federally owned wildlife areas, ecological reserves, or conservation areas); more notice will be provided if possible or if required by other permits. If the work is an emergency, as defined in PG&E's Utility Procedure ENV-8003P-01, PG&E will notify the conservation landowner within 48 hours after initiating emergency work. While this notification is intended only to inform conservation landowner, PG&E will attempt to work with the conservation land owner to address landowner concerns.	All covered species
Field Crew	FP-06	Minimize potential for covered species to seek refuge or shelter in pipes and culverts. Inspect pipes and culverts, of diameter wide enough to be entered by a covered species that could inhabit the area where pipes are stored, for wildlife species prior to moving pipes and culverts. Immediately contact a biologist if a covered species is suspected or discovered.	All covered amphibians, reptiles and mammals
Field Crew	FP-07	Vehicle speeds on unpaved roads will not exceed 15 miles per hour.	All covered species
Field Crew	FP-08	Prohibit trash dumping, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations) at work sites.	All covered species

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species (Continued)

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Field Protocols			
Access and Worksite Management (continued)			
Field Crew	FP-09	During fire season in designated State Responsibility Areas, equip all motorized equipment with federally approved or state-approved spark arrestors. Use a backpack pump filled with water and a shovel and fire-resistant mats and/or windscreens when welding. During fire "red flag" conditions as determined by Cal Fire, curtail welding. Each fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C. Clear parking and storage areas of all flammable materials.	All covered species
Field Crew	FP-10	Minimize the activity footprint and minimize the amount of time spent at a work location to reduce the potential for take of species.	All covered species
Erosion Control			
Field Crew	FP-11	Utilize standard erosion and sediment control BMPs (pursuant to the most current version of PG&E's *Stormwater Field Manual for Construction Best Management Practices*) to prevent construction site runoff into waterways.	All covered aquatic species
Field Crew	FP-12	Stockpile soil within established work area boundaries and locate stockpiles so as not to enter water bodies, stormwater inlets, other standing bodies of water. Cover stockpiled soil prior to precipitation events.	All covered species
Natural Resource Protection			
Field Crew	FP-13	Fit open trenches or steep-walled holes with escape ramps of plywood boards or sloped earthen ramps at each end if left open overnight. Field crews will search open trenches or steep-walled holes every morning prior to initiating daily activities to ensure wildlife are not trapped. If any wildlife is found, a biologist will be notified and will relocate the species to adjacent habitat or the species will be allowed to naturally disperse, as determined by a biologist.	Covered amphibians, reptiles, and mammals
Land Planner or Biologist, and Field Crew	FP-14	If the covered activity disturbs 0.1 acre or more of habitat for a covered species in grasslands, the field crew will revegetate the area with a commercial "weed free" seed mix.	All covered grassland species
Field Crew	FP-15	Prohibit vehicular and equipment refueling 250 feet from the edge of vernal pools, and 100 feet from the edge of other wetlands, streams, or waterways. If refueling must be conducted closer to wetlands, construct a secondary containment area subject to review by an environmental field specialist and/or biologist. Maintain spill prevention and cleanup equipment in refueling areas.	Vernal pool species, California freshwater shrimp, California red-legged frog, California tiger salamander (both Central California and Sonoma County DPSs), San Francisco garter snake

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species (Continued)

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Field Protocols			
Natural Resource Protection (continued)			
Land Planner or Biologist, and Field Crew	FP-16	Maintain a buffer of 250 feet from the edge of vernal pools and 50 feet from the edge of wetlands, ponds, or riparian areas. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the land planner, biologist, or HCP administrator to minimize impacts by flagging access, requiring foot access, restricting work until dry season, or requiring a biological monitor during the activity.	Vernal pool species, California freshwater shrimp, California red-legged frog, California tiger salamander (both Central California and Sonoma County DPSs), San Francisco garter snake
Field Crew	FP-17	Directionally fell trees away from an exclusion zone, if an exclusion zone has been defined. If this is not possible, remove the tree in sections. Avoid damage to adjacent trees to the extent possible. Avoid removal of snags and conifers with basal hollows, crown deformities, and/or limbs over 6 inches in diameter.	All covered species
Land Planner or Biologist, and Field Crew	FP-18	Nests with eggs and/or chicks will be avoided: contact a biologist, land planner or the Avian Protection Program manager for further guidance.	All nesting bird species
Hot Zone Avoidance and Minimization Measures			
Biologist/ Field Crew	Hot Zone-1	Work will avoid pools and streams. Field crew will prevent any damage to the bank and streamside vegetation during placement or movement of materials on the stream banks. Streamside vegetation overhanging into pools or runs will, to the maximum extent practical, not be removed, trimmed, or otherwise modified.	California freshwater shrimp
Biologist/ Field Crew	Hot Zone-2	Ground-disturbing activities will not occur from the first significant rain (1 inch) during the wet season, October 15–April 15, within 250 feet of the edge of vernal pools unless the field crews conduct the work from an established roadway. Access rock outcrops only on foot during all times of year. Ground-disturbing activities may occur during this period if a biologist implements measures to avoid the habitat and the impacts and mitigation are consistent with the HCP. Measures could include directing crews on access, use of erosion/sediment fencing, use of access mats, and other techniques to avoid direct or indirect effects. PG&E may seek guidance from USFWS as to the suitability of additional measures to avoid or minimize take of this species.	Longhorn fairy shrimp

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species (Continued)

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Hot Zone Avoidance and Minimization Measures (continued)			
Biologist/ Field Crew	Hot Zone-3	A biologist will survey for host and nectar plants (lupine, thistles, viola) prior to activity commencement and flag off-road access for vehicles or identify if foot access or ATVs are necessary. In cases where plants cannot be avoided activities will only be allowed during flight period, March 1 – July 15, to reduce the risk of butterfly mortality. PG&E will avoid and minimize the introduction or spread of noxious weeds from vehicular traffic through employee education, minimizing off-road travel, and inspecting vehicles to be sure they are not transporting observable noxious weeds.	San Bruno elfin butterfly, Callippe silverspot butterfly, Mission blue butterfly (San Bruno Mountain)
Biologist/ Field Crew	Hot Zone-4	A biologist will survey for host and nectar plants (naked-stem buckwheat) prior to activity commencement and flag off-road access for vehicles or identify if foot access or ATVs are necessary. In cases where plants cannot be avoided activities will only be allowed during flight period, August 1–September 30, to reduce the risk of butterfly mortality. USFWS refuge biologist will be contacted if work is to occur on USFWS-owned refuge lands, and PG&E will adhere to USFWS guidance on methods to avoid and minimize effects.	Lange's metalmark butterfly (Antioch Dunes National Wildlife Refuge)
Biologist/ Field Crew	Hot Zone-5	A biologist will survey for host and nectar plants (dwarf plantain, purple owl's clover, or paintbrush) prior to activity commencement and flag off-road access for vehicles or identify if foot access or ATVs are necessary. In cases where plants cannot be avoided activities will be allowed during flight period, March 1–April 30. PG&E will avoid and minimize the introduction or spread of noxious weeds from vehicular traffic through employee education, minimizing off-road travel, and inspecting vehicles to be sure they are not transporting observable noxious weeds.	Bay checkerspot butterfly (Mapped serpentine grassland in Santa Clara County)
Biologist/ Field Crew	Hot Zone-6	Limit activities to foot access only when working off of established roadways unless a biological monitor flags off-road access routes for equipment that minimize impacts on habitat and species. This includes the identification and avoidance of vernal pools and stock ponds. Covered activities that cannot avoid vernal pool impacts will be completed when pools are clearly dry.	California tiger salamander (both Central California and Sonoma County DPSs)

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species (Continued)

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Hot Zone Avoidance and Minimization Measures (continued)			
Biologist/ Field Crew	Hot Zone-7	Activities that result in ground disturbance will occur May 1–October 30 (active season). Vegetation will be cut using hand tools to 3 inches in height. Once the ground is visible, a visual survey for San Francisco garter snake will be conducted by the biologist prior to additional ground disturbance. Field crews will install solid exclusion fencing if the work is in areas of known species presence. If work needs to occur during the inactive period (November 1–April 30) and is located in an area of known occupancy, flag and avoid any burrows by at least 10 feet wherever possible. If any burrows cannot be avoided by this distance, a biologist will inspect following activities to determine whether or not the burrow has been collapsed. If a burrow is collapsed, the biologist shall make efforts to open the burrow.	San Francisco garter snake
Biologist and Field Crew	Hot Zone-8	For activities that will result in ground disturbance in tidal marsh or coastal wetland habitat, including the removal of marsh vegetation, a biologist will flag access routes for crews when working in pickleweed (*Salicornia*) or smooth cordgrass (*Spartina alterniflora*) dominated habitats in order to minimize impacts on these species. Crews will hand-carry equipment and use protection mats (landing pads, pallets) to minimize ground disturbance when working within pickleweed or smooth cordgrass. Small areas of healthy vegetation will be cleared by hand prior to placement of protective mats. To avoid take of salt marsh harvest mouse, the biologist will assess the site to determine if: vegetation protection mats are appropriate, use of helicopters is needed, vegetation removal by hand is needed, and an onsite biological monitor is needed. Prior to placement of mats or removal of vegetation, the vegetation will be disturbed (i.e., flushed) to force movement of salt marsh harvest mouse into adjacent tidal marsh areas. Immediately following flushing, the field crew will place a mat or manually remove vegetation with nonmotorized tools (e.g., hoe, rake, trowel, or shovel) to the bare ground. Conduct work within 700 feet of wetlands suitable for the Ridgway's rail September 1–January 15.	Ridgway's rail, salt marsh harvest mouse (Marsh/Bay Fringe)

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Species-Specific Avoidance and Minimization Measures for Activities E9a (reconductoring) , E12–E14 (pole and tower line construction and substation expansion), and G16–18 (pipeline safety enhancement projects)			
Biologist and Field Crew	SJKF-1	A biologist will inspect the work site no more than 30 days prior to construction to determine if potential San Joaquin kit fox dens are present. If potential dens are located within the proposed construction footprint and cannot be avoided during construction, a biologist will determine if the dens are occupied. All potential dens within the construction footprint will be dusted with appropriate tracking substrate or monitored with a motion-sensor camera for a minimum of 3 days to determine occupancy unless scat, discarded bones, and tracks are observed and then the den is presumed occupied. Exit ramps will also be installed in these areas at both ends of the excavated areas. If potential San Joaquin kit fox dens are present within the construction footprint or within 200 feet of the construction boundary, disturbance and destruction will be avoided where possible. If the potential dens are determined to be unoccupied and cannot be avoided, no further action is needed. If an occupied or natal/pupping den is discovered within the construction area or within 200 feet of the project boundary, USFWS shall be immediately notified to discuss protective measures; if USFWS staff are unable to be reached, PG&E will set up exclusion zones, visual screens, and construction monitors to ensure direct mortality is avoided. Under no circumstances will the den be disturbed or destroyed.	San Joaquin kit fox (Grasslands in eastern Alameda, and southeastern Contra Costa Counties)
Biologist/ Field Crew/ HCP Administrator	Wetland-1	Identify vernal pools and establish buffers. Maintain a buffer of 250 feet around vernal pools and vernal pool complexes. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the biologist or HCP administrator to minimize impacts. These measures include flagging access, requiring foot access, restricting work until the dry season, requiring a biological monitor during the activity, or excavating burrows in ROWs where trenching will occur. Activities must maintain the downstream hydrology to the vernal pool or complex. Additional minimization measures may be implemented with prior concurrence from USFWS.	Vernal pool species, including California tiger salamander (both Central California and Sonoma County DPSs)
Biologist/ Field Crew	Wetland-2	Identify wetlands, ponds, and riparian areas and establish buffers. Maintain a buffer of 50 feet around wetlands, ponds, and riparian areas. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the biologist or HCP administrator to minimize impacts. These measures include flagging access, requiring foot access, restricting work until the dry season, requiring a biological monitor during the activity, or excavating burrows in ROWs where trenching will occur. Activities must maintain the downstream hydrology to the wetland, pond, or riparian area. Additional minimization measures may be implemented with prior concurrence from USFWS.	California freshwater shrimp, California tiger salamander (both Central California and Sonoma County DPSs), California red-legged frog, San Francisco garter snake

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species (Continued)

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Other Regional Planning Measures			
HCP Administrator	Minor New-1	For minor new construction activities under 2 miles in length, excluding upgrades and replacements, (G15, E12, E13, and E15), PG&E will notify the USFWS of the anticipated project and provide a summary of the activity. The summary will include information on HCP measures to avoid, minimize and mitigate the effects of the project on covered species, confirm there is adequate take authorization remaining for the covered species, and confirm that activity does not have a reasonably certain likelihood of take of listed non-covered species. If the USFWS has concerns about the work, they will notify PG&E within 5 business days and resolve the concerns within 10 days.	All covered species
HCP Administrator	Edgewood Park-1	When PG&E is planning a new gas pipeline extension or pipeline replacement project in Edgewood Park, PG&E will meet with the USFWS and affected stakeholders during the planning phase to provide an opportunity for input.	San Bruno elfin butterfly, Callippe silverspot butterfly, Mission blue butterfly and listed plants
Covered Plant Avoidance and Minimization Measures			
Field Crew	Plant-01	No herbicides will be used for vegetation management, pole clearing, or any other purpose within 100 feet of a Map Book zone (MBZ) (except vegetation management's direct application to cut stumps when greater than 25 feet from a MBZ and in conformance with applicable pesticide regulations).	All covered plants
Field Crew	Plant-02	Heavy equipment shall remain on access roads or other previously disturbed areas unless otherwise prescribed by a land planner, biologist, or HCP administrator.	All covered plants
Biologist/ Field Crew	Plant-03	Stockpile separately the upper 4 inches of topsoil during excavations associated with covered activities. Stockpiles topsoil will be used to restore the disturbed ROW.	All covered annual plants[a]
Biologist	Plant-04	When covered activities greater than 0.1 acre in size within a MBZ will have direct impacts on covered species, work with the crew to place flagging, fencing, or other physical exclusion barriers to minimize disturbances. If the work will directly impact covered plant species, implement Plant-05, -06, -07, and -08 AMMs.	All covered plants
Biologist	Plant-05	If a covered plant species is present and it cannot be avoided, PG&E will salvage plant material (i.e., seeds, cuttings, whole plants) and prepare a restoration plan that details the handling, storage, propagation, or reintroduction to suitable and appropriate habitat subject to USFWS review and approval.	All covered plants
Covered Plant Avoidance and Minimization Measures (continued)			
Biologist	Plant-06	If a covered annual plant species is present and it cannot be avoided, conduct covered activities after seeds have matured to the extent possible.	All covered annual plants[a]

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Biologist	Plant-07	If a covered perennial plant species is present and it cannot be avoided, conduct covered activities after seeds have matured to the extent possible. Minimize disturbance to the below-ground portions of the plants (e.g., roots, bulbs, tubers).	All covered perennial plants[b]
Biologist	Plant-08	PG&E will prune shrubs in a manner that promotes re-sprouting. If permanent impacts are unavoidable, establish new individuals by planting seedlings or from cuttings in adjacent suitable habitat. PG&E will implement best management practices including vehicle, equipment, and personnel hygiene protocols; procedures for conducting activities in infected areas; and timing restrictions that avoid working when soils are moist and the likelihood of spreading *P. cinnamomi* is greatest.	Pallid manzanita
Biologist/ Field Crew	Plant-09	PG&E will follow current best management practices to prevent the spread of Phytophthora when working on *gas transmission* facilities in the Map Book Zone for coyote ceanothus in Santa Clara County. PG&E will clean equipment (i.e., vehicles, equipment, tools, footwear and clothes) at designated cleaning stations before and after leaving these work locations. All PG&E staff and subcontractors working in these areas will be trained on the risks of spreading Phytophthora and will work to minimize the unnecessary movement of soil and plant materials when in this area. PG&E will also take care to prevent the spread or contamination during plantings or restoration activities. (See Phytophthoras in Native Habitats Working Group Recommendations, October 2016 for more information.)	Coyote ceanothus

Note: In some instances, biologists with additional training or permits will be used when PG&E is surveying for the covered species, species require handling, or other instances when take is likely.

[a] Covered annual plant species are Sonoma sunshine, Marin dwarf-flax, Burke's goldfields, Contra Costa goldfields, Sebastopol meadowfoam, white-rayed pentachaeta, and Metcalf Canyon jewelflower.

[b] Covered perennial plant species are pallid manzanita, coyote ceanothus, fountain thistle, Santa Clara Valley dudleya, Contra Costa wallflower, and Antioch Dunes evening primrose.

Table 5-2. Vegetation Management Best Management Practices to Reduce Environmental Impacts

BMP #	Best Management Practice
BMP 1 (FP-01)	PG&E employees and vegetation management contractors performing Vegetation Management activities shall receive ongoing environmental orientation. Orientation shall include review of environmental laws and guidelines that must be followed by all PG&E employees and contract vegetation management personnel to reduce or avoid impacts on covered species during vegetation management activities.
BMP 2 (FP-05)	Notify federal and state land managers of pending work, and schedule annual meetings with these land managers, as requested. Notify local agency land managers of pending work as requested, or as sensitive issues arise.
BMP 3 (FP-09)	During fire season in designated State Responsibility Areas, motorized equipment shall have federally approved or state-approved spark arrestors; all vehicles shall be equipped with firefighting tools as appropriate and in accordance with all applicable laws, rules, regulations, orders, and ordinances.
BMP 4	Contractor shall be responsible for checking the daily Project Activity Level (a measure of fire weather conditions that, at certain levels, restricts activities otherwise permitted) during fire season when working on U.S. Forest Service (USFS) property.
BMP 5	Smoking shall not be permitted during fire season, except in a barren area or in an area cleared to mineral soil at least 3 feet in diameter. Under no circumstances shall smoking be permitted during fire season while employees are operating light or heavy equipment or walking or working in grass and woodlands.

BMP #	Best Management Practice
BMP 6 (FP-08)	Hunting, firearms, portable stoves, open fires (such as barbecues) not required for the vegetation management activity, and pets (except for safety in remote locations) shall be prohibited in vegetation management work activity sites. All trash, food items, and human-generated debris shall be properly contained and/or removed from the site.
BMP 7 (FP-07)	To avoid hitting or crushing wildlife in the roadway and to avoid generating dust, vehicles will not exceed a speed limit of 15 miles per hour on low-use unpaved roads such as agricultural field roads, transmission right-of-way roads, and non-system numbered USFS roads with locked gates. Travel on high-use unpaved roads such as USFS logging roads shall be as slow as local traffic conditions allow.
BMP 8	All roads, fences, and structures damaged as a result of vegetation management operations shall be repaired and reported to the work group supervisor and the PG&E vegetation management representative. All gates shall be left open if found open or locked if found locked.
BMP 9 (FP-02, FP-03)	Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. In environmentally sensitive areas, vehicle access to work sites shall be restricted to existing roadways.
BMP 10 (FP-15)	When practical, fuel vehicles and equipment offsite. If it is necessary to fuel onsite the following precautions shall be taken: No vehicles or equipment shall be refueled within 250 feet of vernal pools, and 100 feet of a watercourse, ditch, wetland, or a pond, unless a bermed and lined refueling area is constructed. The fueling operator must stay with the fueling operation at all times. Do not top off tanks. Spill containment and cleanup materials must be available. Spills must be immediately cleaned up and contaminated materials disposed of properly. Fueling trucks and operators must have all necessary permits, licenses and training. Any spills must be reported immediately to supervisor and PG&E vegetation management representative.
BMP 11	Debris that remains from lop and scatter operations shall be left at a height no greater than 18 inches.
BMP 12 (FP-11)	After vegetation management activities, if the amount of bare soil exposed in one location exceeds 0.1 acre, then erosion control measures shall be implemented. These measures may include straw mulching, seeding, and use of straw waddles. (No rice straw will be used around wetlands containing vernal pools.)
BMP 13 (FP-16, Wetland-1)	Avoid operating vehicles and equipment within 250 feet (or the maximum distance practicable) of the edge of a vernal pool and, to the extent practicable, avoid walking through a vernal pool.

Table 5-2. Vegetation Management Best Management Practices to Reduce Environmental Impacts (Continued)

BMP #	Best Management Practice
BMP 14	When routine vegetation management activities are conducted in an area of potential valley elderberry longhorn beetle habitat, a qualified individual will survey for the presence of elderberry plants within a minimum of 20 feet from the work site within the utility easement, ROW, franchise, or license, and shall note in vegetation management work request documents to avoid or minimize potential impacts on elderberry plants. If elderberry plants have one or more stems 1 inch or more in diameter at ground level, additional measures identified in the *Valley Elderberry Longhorn Beetle Conservation Plan* shall be implemented. Otherwise, no additional minimization, avoidance, or protective measures are required.
BMP 15 (FP-18)	When vegetation management staff is aware of known active northern spotted owl nests through either the CNDDB viewer or property owner information, PG&E will implement the following. If the work is within 0.25 mile of a known active nest(s), the work will be performed either during a limited operating period of August 1 to January 31, or, if the work falls within the breeding period and is within 300 feet of the nest, the PG&E Avian Protection Program manager will be contacted for guidance and work will be performed as directed by the Avian Protection Program manager. If the work is scheduled during breeding season and if the work is 300 feet to 1/4-mile from the nest, work will be performed using hand tools (not chainsaws) or hydraulic pruners if the work is accessible from a regularly trafficked roadway. If the work cannot be performed with hand tools or hydraulic tools, then vegetation management staff will contact the Bird Program manager for guidance. In locations where known active nests occur, vegetation management staff will increase pruning distances from the conductors or pursue tree/brush removals in order to minimize the number of return visits to the area.
BMP 16	All PG&E employees and contractors shall follow the Vegetation Management Migratory Bird Process, when applicable to vegetation management activities, to comply with Migratory Bird Treaty Act.

BMP #	Best Management Practice
BMP 17	When performing work in counties subject to the Sudden Oak Death quarantine, Vegetation Management Sudden Oak Death Protocols must be followed.
BMP 18	Vegetation management personnel shall verify that the environmental screening process was followed prior to conducting vegetation management activities associated with capital jobs and other non-vegetation management work. Vegetation management personnel shall follow any environmental protection measures identified for the job.
BMP 19	If cultural resources are found (e.g., old bottles, cans, buildings), they shall be left in place and undisturbed. If it is necessary to move or disturb them to complete the work, or if human remains are found, stop work and contact the PG&E vegetation management representative.
BMP 20	All equipment shall be permitted by the Air Resources Board as required, including portable equipment or new stationary equipment with internal combustion engines greater than 50 Brake HP, (e.g., tow-behind generators, chippers, and truck- or trailer-mounted air compressors and pumps).
BMP 21	When working within 50 feet of residences or government or commercial buildings, engine idling, noise, and odor should be minimized to the extent practicable. Also adhere to the restrictions noted in the Commercial Vehicle Idling Tailboard when working on school grounds or within 100 feet of a school (K–12 and below, including play areas and sports fields, and day care facilities).
BMP 22	Contractor shall have the ability to communicate quickly with their supervisor and/or PGE. This can be done by having a working cell phone or radio on the job site at all times or by identifying the closest area of cell phone reception or closest public telephone and familiarizing all employees with that location.
BMP 23	If an environmental protection incident occurs, such as accidental introduction of substances into waterways or wetlands, accidental taking of an endangered species, or hazardous material spills, etc., call your supervisor and the PG&E vegetation management representative immediately.

Table 5-2. Vegetation Management Best Management Practices to Reduce Environmental Impacts (Continued)

BMP #	Best Management Practice
BMP 24	Vegetation removal shall be completed without the use of self-propelled mechanical equipment (e.g., Hydro-ax, Brontosaurus, Slashbuster).
BMP 25 (FP-10)	The disturbance or removal of vegetation within the work area shall not exceed the minimum necessary to complete operations, subject to other public and health and safety directives governing the safe operations and maintenance of electric and gas facilities. Precautions shall be taken to avoid damage to non-target vegetation.
BMP 26	Cleared or pruned vegetation, grass clippings and woody debris (including chips) shall be disposed of in a legal manner. All cleared vegetation and debris, grass clippings and woody debris (including chips) shall be removed from any wetland, ditch, pond, or stream and placed or secured where they cannot re-enter the watercourse.
BMP 27	Vegetation that at mature height does not pose a threat to the conductors shall not be removed, unless the removal is required to maintain compliance with California Public Resource Code Section 4292 (pole clearing).
BMP 28	Any vehicles driven and/or operated within or adjacent to streams shall be checked and maintained daily to prevent leaks of materials that, if introduced to the water, could be harmful to aquatic life.
BMP 29 (Plant-02)	Vehicle access to streams and wetlands shall be limited to existing roads and crossings.
BMP 30	When possible, activities near streams, wetlands, or on saturated soils shall be conducted during the dry season (generally May 15–October 15) or during periods of minimum flow. If it is not possible to perform the work in the dry season, perform rainy season work during dry spells between rain events.
BMP 31 (Plant-01)	All herbicide applications performed by vegetation management contractors shall be made in compliance with label requirements as well as all appropriate federal, state, and local laws, rules, and regulations. Note: Use of herbicides and pesticides is not covered activities under the HCP.
BMP 32	Only herbicides registered by the federal Environmental Protection Agency and California Environmental Protection Agency shall be applied.
BMP 33	During the performance of Vegetation Management ROW Enhancement Operations, operator ID numbers and Site ID numbers shall be obtained for each facility as required by the County Agricultural Commissioner.
BMP 34	Each application shall be covered by a written *Pest Control Recommendation*.

BMP #	Best Management Practice
BMP 35	A Licensed Pest Control Advisor shall oversee all herbicide and tree growth regulator applications. A qualified applicator shall supervise contractors making herbicide and tree growth regulator applications for vegetation management.
BMP 36	County Agricultural Commissioners shall be invited to inspect the applicator and application operations when appropriate.
BMP 37	The Pest Control Business License holder (applicator) shall report herbicide use monthly to the County Agricultural Commissioner.
BMP 38	Contractor shall conduct annual worker safety training sessions for all contractor employees involved in the herbicide applications and manual/mechanical clearing. As requested, documentation of this training shall be on file with the PG&E representative who administers their contract.
BMP 39 (Plant-01)	Selective application techniques should be used for Vegetation Management ROW Enhancement Operations wherever practical so that desirable vegetation is not adversely affected.
BMP 40	Buffer widths shall apply pursuant to *Vegetation Management Herbicide Buffer Widths to Protect Non-Target Organisms* as identified on product packaging.

Table 5-2. Vegetation Management Best Management Practices to Reduce Environmental Impacts (Continued)

BMP #	Best Management Practice
BMP 41	Mixing and loading of herbicides is prohibited in watercourse protection zones (see BMPs 60 and 61 for watercourse protection zones).
BMP 42	Applicator shall have a spill prevention and cleanup kit in their vehicle and at the job site.
BMP 43	Backpack equipment or light-capacity power equipment shall be used for all directed foliar applications.
BMP 44	Empty herbicide containers shall be taken offsite, triple rinsed, and disposed of in a proper manner.
BMP 45	Minimum operating pressures shall be used. Nozzle tips that produce a coarser droplet should be used to minimize drift.
BMP 46	Pesticides shall not be transported in the same compartment with persons, food, or feed. Pesticide containers shall be secured to the vehicle during transportation in a manner that shall prevent spillage into or off the vehicle.
BMP 47	The contractor shall have a written training program for employees who handle pesticides. The written program must describe the materials and the information that shall be provided and used to train the employees.
BMP 48	Training must be completed before an employee is allowed to handle any pesticide and continually updated to cover any new pesticides that shall be handled. Training must be repeated at least annually thereafter.
BMP 49	These special precautions shall be observed during periods of inclement weather: Applications shall not be made in, immediately prior to, or immediately following rain when runoff could be expected. Applications shall not be made when wind and/or fog conditions have the potential to cause drift. Basal bark applications shall not be made when stems are wet with rain, snow, or ice.
BMP 50	Prior to any ROW clearing project or any enhancement project, the CNDDB shall be checked for any records of threatened, endangered, or sensitive species.
BMP 51	Any locations identified through the CNDDB search shall be flagged and appropriate avoidance measures shall be put in place. Tailboards shall be held before work begins.
BMP 52 (Wetland-01, Wetland-02)	Sensitive habitats such as meadows, riparian areas, wetlands, vernal pools, and serpentine outcrops shall be flagged, and appropriate avoidance measures shall be put in place. Tailboards shall be held before work begins.
BMP 53	All existing roads shall be kept open and erosion control measures re-installed after the project is completed or during inclement weather.
BMP 54	Contractor shall clear all vegetation 10 feet around and under all towers/poles and guy wires. Only manual clearing work can occur within the above-mentioned 10 feet. No mechanical equipment shall be used within 10 feet of the above-mentioned structures. All vegetation cut under and within 10 feet of the towers shall be removed from the area and mulched to a depth not greater than 18 inches.

BMP #	Best Management Practice
BMP 55	All debris that remains from mowing operations shall be mulched to a depth not greater than 18 inches.
BMP 56	Trees greater than 12 inches in diameter at breast height shall be hand-felled and then the top and limbs removed, and the bole decked on the side of the ROW.
BMP 57	Contractor shall flag all guy wires 200 feet in advance of working an area, using bright colored flagging (a minimum of three flags per wire).

Table 5-2. Vegetation Management Best Management Practices to Reduce Environmental Impacts (Continued)

BMP #	Best Management Practice
BMP 58	Contractor shall have a water source containing a minimum of 300 gallons of water and 250 feet of 1-inch hose onsite at all times during operation. The water source must either be self-propelled or always attached to a vehicle capable of moving it to where it is needed. Where access/terrain allows, contractor's water source must always be within 500 feet of the mowing/cutting operation. Excess water shall be disposed of in accordance with all laws and regulations.
BMP 59	Each mower shall have a minimum of a 10-pound, Class A, B, C fire extinguisher mounted in the cab.
BMP 60	Contractor must stay onsite for one-half hour after mowing operations end for the day to ensure fire safety. When extreme fire levels are reached, the following extra precautions must be implemented immediately. • An additional support person shall be dedicated to follow the mower with an Indian Back Pump and McLeod. • Mowing hours will be reduced to the hours of 5:00 a.m. through 12:30 p.m. • The use of a humidity meter shall occur. A reading of less than (<) 20% humidity shall stop the mowing operation for the day. Readings shall be taken every 3 hours during operation.
BMP 61	Watercourse protection zones shall be marked by the PG&E representative in charge with brightly colored flagging prior to the start of any mowing/timber operation. Water classes are defined by the California Forest Practice Rules (14 California Code of Regulations Section 916.5). The following watercourse protection zone clearances must be maintained at all times. • Class 1 and 2 watercourses with a slope < 30%: No heavy equipment within 50 feet. • Class 1 and 2 watercourses with a slope > 30%: No heavy equipment within 75 feet. • Class 3 watercourse: No heavy equipment within 25 feet. • Unclassified watercourses with a defined channel: No heavy equipment within 25 feet. No mowing shall be allowed within the above distances. Trees within the above distances shall be removed manually. Brush and other small vegetation shall be left for a shade canopy on the watercourse. The actual width of the watercourse protection zone may vary based on a PG&E representative's judgment in the field. All impaired watercourses and their protection zone clearances shall be identified before the project begins.
BMP 62	The following protection measures are designed to prevent adverse impacts on water quality, help protect soil resources, and minimize the loss of riparian vegetation. 1. Plants in watercourse protection zones that do not pose an imminent or clearly foreseeable future threat to conductors shall not be removed. 2. To help prevent erosion and soil displacement, exclusion zones may be increased in areas with steep slopes or highly erodible soils. 3. Leave at least 50% soil cover (i.e., mulch or vegetative ground cover) for erosion control in watercourse protection zones.

Exhibit B. Best Management Practices

PG&E Standard BMPs for BCDC Jurisdiction

Measure type	Specific BMP
Dust control	• Apply water as needed • Limit vehicle speed to 15 miles per hour • Cover loads • Clean track-out daily
Parking	• Park on pavement, existing roads, and previously disturbed areas to the extent practicable. • Avoid parking on dry vegetation. • Carry water or fire extinguisher and shovel during dry conditions.
Access	• Vehicles and equipment must use pavement, existing roads, and previously disturbed areas to the extent practicable. • Keep off-road travel, blading, and vegetation clearing to the minimum extent necessary for safe vehicle/equipment access.
Trash	Place all activity and food-related trash in a covered receptacle and remove from the activity area daily.
Refueling	• No vehicles or heavy equipment will be refueled within 100 feet of a wetland, stream, or other waterway, or within 250 feet of vernal pools, unless secondary containment is used. • Vehicles will carry adequately stocked spill kits and staff must be trained in their use. • The fueling operator must always stay with the fueling operation. • Do not top off tanks.
Bird nests	Bird nests with eggs and/or chicks will not be disturbed; contact a biologist or the Avian Protection Program Manager for further guidance.
Wildlife entrapment	Inspect pipes, culverts and other construction material and equipment for wildlife prior to moving them.
Waterway crossings	Vehicles and equipment may cross streams and wetlands only via existing roads and crossings. When possible, activities near streams, wetlands, or on saturated soils should be conducted during the dry season. If work is necessary during the rainy season, it should be conducted during dry spells between rain events. Vehicles and equipment must be checked and maintained daily to prevent leaks.
Vernal pools	If overland access or ground disturbing work is planned within 250 ft. of any water feature, contact a PG&E Biologist.
Wildlife sighting	No wildlife or plant species will be handled or removed from activity areas.
Invasive Species	Clean all vehicles, equipment, clothing, etc. of material potentially containing noxious weeds/seeds prior to entering and existing work locations. Cleaning can be accomplished by brushing, washing, or blowing with compressed air.
Waterways	Cleared or pruned vegetation, woody debris (including chips), and lose or exposed soil, must be disposed of in a manner to ensure that these materials do not enter surface water or a water feature.
Cultural Resource Inadvertent Discovery	If any cultural resources are identified during PG&E activities, stop all work in the vicinity of the discovery and immediately notify the PG&E Cultural Resources Specialist. Archaeological and historic-period resources in the region may include: • Archaeological materials: flaked stone tools (projectile point, biface, scraper, etc.) and debitage (flakes) made of chert, obsidian, etc., groundstone milling tools and fragments (mortar, pestle, handstone, millingstone, etc.), faunal bones, fire- affected rock, dark middens, housepit depressions and human interments. • Historic-era resources: may include, but are not limited to, small cemeteries or burial plots, cut (square) nails, containers or miscellaneous hardware, glass fragments, cans with soldered seams or tops, ceramic or stoneware objects or fragments, milled or split lumber, earthworks, feature or structure remains and trash dumps.
Herbicide	Herbicides will be applied in a manner to avoid drift, will be stored and transported in a manner to prevent spilling, and will be applied to target species only. Applications must not be made in, immediately prior to, or immediately following rain.

Measure type	Specific BMP
Environmental Field Specialist (EFS) Notification	Immediately contact the local EFS and stop work if any of the following conditions occur: • Discharge or spill of a hazardous substance • Visually cloudy/muddy water is observed leaving the work area • Need for dewatering • An underground storage tank is discovered • Potential naturally occurring asbestos (fibrous or flaky rock that can be green, brown, reddish brown, grey and/ or black, may appear waxy or shiny and feel soapy) is identified during excavation • A subsurface component related to site remediation activities (e.g., monitoring well, recovery well, injection well) is discovered or • Unanticipated evidence of contamination is identified (e.g., staining, unusual odors)
Stormwater Runoff	• Properly handle, store, and use materials to prevent soil contamination or discharge from site. • Store liquid materials in watertight container with appropriate secondary containment or in a fully enclosed storage shed. • Barricade or cover storm drains with impervious material during demolition activities that involve liquid pollutants or chemicals. • Minimize dry pollutants exposure to precipitation. • Install stabilized entrances and/or implement street sweeping to prevent track out to paved surfaces. • Cover or barricade drains within reasonable proximity to the work area during concrete work. Provide appropriate washout containment and train personnel to wash equipment and tools into the containment BMP. Re-schedule concrete work if rain is forecast. Use vacuum to collect concrete cuttings or slurry and dispose of properly. • Portable toilets must be placed at least 50 feet away from water features, have trays to contain spills and minor leaks, stabilizing features to prevent tipping, and serviced regularly. • Provide waste receptacle (dumpster) adequate in size. Cover all waste containers at end of each day and prior to rain events. Do not allow rinse or wash water (concrete rinse, paint wash, etc.) to contact the ground and/or paved surfaces nor allow rinse or wash water to be directed or dumped into any drain inlet or surface water and properly dispose of all rinse and/or wash water. • Maintain vehicles and equipment in good working condition. Perform fueling and maintenance activities only in areas fitted with appropriate BMPs. Maintain spill kits on-site in case of spill.
Stockpile management	• Protect stockpiles from wind, rain, and non-storm water runoff. • Prevent stockpile pollution (from weather, wind, access/tracking, etc.) by ensuring management materials (i.e., cover, tie down supplies, run-on barriers and runoff barriers) are always available. Protect stockpiles with an upslope and downslope barrier (i.e., biodegradable fiber rolls, gravel bags, etc.). • Keep a minimum separation of 50 feet between stockpiles and concentrated flows of storm water, drainage courses, and storm drain inlets. If space is limited, additional diversion or protection will be implemented. • Contain runoff from high-risk stockpiles (i.e., cold mix asphalt, concrete, contaminated soil, etc.). • Locate high risk stockpiles on impervious surfaces and in areas without run-on and monitor for potential pollutant discharges. If not possible, provide a diversion or berm. If a pollutant discharge is probable, contact the EFS. • Bag and place high risk materials on pallets and store under cover if possible.
Erosion and Sediment Control	• Schedule activities to minimize soil disturbance during rain. • Preserve existing vegetation by limiting the work area and limiting disturbed soil areas to the extent practicable. • Provide sediment control (i.e., biodegradable fiber rolls, gravel bags, etc.) downslope of any soil disturbances. • Protect drainage inlets within 50 feet of any soil disturbances. • Cover all excavations at the end of each workday. • Ensure that exposed soils are protected from erosion if rain occurs or is forecast. • Inspect BMPs daily and maintain, replace, or repair as necessary.
Restoration	• Remove all temporary, non-biodegradable BMPs, and clear debris and construction materials. • Stabilize all activity-related disturbed soils and return the area to pre-activity conditions or equivalent which may include pavement, concrete, gravel/rock, landscaping, soil cover, seeding, or agricultural conditions. • Return activity area to pre-existing conditions to the maximum extent possible.

Bay Area Habitat Conservation Plan (HCP) AMMs and BMPs

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species

Staff Responsible	Code	Description of Measure	Applicable Covered Species
Field Protocols			
Training			
HCP Team	FP-01	Hold annual training on habitat conservation plan requirements for employees and contractors performing covered activities in the Plan Area that are applicable to their job duties and work.	All covered species
Access and Worksite Management			
Field Crew	FP-02	Park vehicles and equipment on pavement, existing roads, or other disturbed or designated areas (barren, gravel, compacted dirt).	All covered species
Field Crew	FP-03	Use existing access and ROW roads. Minimize the development of new access and ROW roads, including clearing and blading for temporary vehicle access in areas of natural vegetation.	All covered species
Field Crew	FP-04	Locate off-road access routes and work sites to minimize impacts on plants, shrubs, and trees, small mammal burrows, and unique natural features (e.g., rock outcrops).	All covered species
HCP Team, Land Planners	FP-05	Notify conservation landowner at least 2 business days prior to conducting covered activities on protected lands (state and federally owned wildlife areas, ecological reserves, or conservation areas); more notice will be provided if possible or if required by other permits. If the work is an emergency, as defined in PG&E's Utility Procedure ENV-8003P-01, PG&E will notify the conservation landowner within 48 hours after initiating emergency work. While this notification is intended only to inform conservation landowner, PG&E will attempt to work with the conservation land owner to address landowner concerns.	All covered species
Field Crew	FP-06	Minimize potential for covered species to seek refuge or shelter in pipes and culverts. Inspect pipes and culverts, of diameter wide enough to be entered by a covered species that could inhabit the area where pipes are stored, for wildlife species prior to moving pipes and culverts. Immediately contact a biologist if a covered species is suspected or discovered.	All covered amphibians, reptiles and mammals
Field Crew	FP-07	Vehicle speeds on unpaved roads will not exceed 15 miles per hour.	All covered species
Field Crew	FP-08	Prohibit trash dumping, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations) at work sites.	All covered species

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species (Continued)

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Field Protocols			
Access and Worksite Management (continued)			
Field Crew	FP-09	During fire season in designated State Responsibility Areas, equip all motorized equipment with federally approved or state-approved spark arrestors. Use a backpack pump filled with water and a shovel and fire-resistant mats and/or windscreens when welding. During fire "red flag" conditions as determined by Cal Fire, curtail welding. Each fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C. Clear parking and storage areas of all flammable materials.	All covered species
Field Crew	FP-10	Minimize the activity footprint and minimize the amount of time spent at a work location to reduce the potential for take of species.	All covered species
Erosion Control			
Field Crew	FP-11	Utilize standard erosion and sediment control BMPs (pursuant to the most current version of PG&E's *Stormwater Field Manual for Construction Best Management Practices*) to prevent construction site runoff into waterways.	All covered aquatic species
Field Crew	FP-12	Stockpile soil within established work area boundaries and locate stockpiles so as not to enter water bodies, stormwater inlets, other standing bodies of water. Cover stockpiled soil prior to precipitation events.	All covered species
Natural Resource Protection			
Field Crew	FP-13	Fit open trenches or steep-walled holes with escape ramps of plywood boards or sloped earthen ramps at each end if left open overnight. Field crews will search open trenches or steep-walled holes every morning prior to initiating daily activities to ensure wildlife are not trapped. If any wildlife is found, a biologist will be notified and will relocate the species to adjacent habitat or the species will be allowed to naturally disperse, as determined by a biologist.	Covered amphibians, reptiles, and mammals
Land Planner or Biologist, and Field Crew	FP-14	If the covered activity disturbs 0.1 acre or more of habitat for a covered species in grasslands, the field crew will revegetate the area with a commercial "weed free" seed mix.	All covered grassland species
Field Crew	FP-15	Prohibit vehicular and equipment refueling 250 feet from the edge of vernal pools, and 100 feet from the edge of other wetlands, streams, or waterways. If refueling must be conducted closer to wetlands, construct a secondary containment area subject to review by an environmental field specialist and/or biologist. Maintain spill prevention and cleanup equipment in refueling areas.	Vernal pool species, California freshwater shrimp, California red-legged frog, California tiger salamander (both Central California and Sonoma County DPSs), San Francisco garter snake

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species (Continued)

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Field Protocols			
Natural Resource Protection (continued)			
Land Planner or Biologist, and Field Crew	FP-16	Maintain a buffer of 250 feet from the edge of vernal pools and 50 feet from the edge of wetlands, ponds, or riparian areas. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the land planner, biologist, or HCP administrator to minimize impacts by flagging access, requiring foot access, restricting work until dry season, or requiring a biological monitor during the activity.	Vernal pool species, California freshwater shrimp, California red-legged frog, California tiger salamander (both Central California and Sonoma County DPSs), San Francisco garter snake
Field Crew	FP-17	Directionally fell trees away from an exclusion zone, if an exclusion zone has been defined. If this is not possible, remove the tree in sections. Avoid damage to adjacent trees to the extent possible. Avoid removal of snags and conifers with basal hollows, crown deformities, and/or limbs over 6 inches in diameter.	All covered species
Land Planner or Biologist, and Field Crew	FP-18	Nests with eggs and/or chicks will be avoided: contact a biologist, land planner or the Avian Protection Program manager for further guidance.	All nesting bird species
Hot Zone Avoidance and Minimization Measures			
Biologist/ Field Crew	Hot Zone-1	Work will avoid pools and streams. Field crew will prevent any damage to the bank and streamside vegetation during placement or movement of materials on the stream banks. Streamside vegetation overhanging into pools or runs will, to the maximum extent practical, not be removed, trimmed, or otherwise modified.	California freshwater shrimp
Biologist/ Field Crew	Hot Zone-2	Ground-disturbing activities will not occur from the first significant rain (1 inch) during the wet season, October 15–April 15, within 250 feet of the edge of vernal pools unless the field crews conduct the work from an established roadway. Access rock outcrops only on foot during all times of year. Ground-disturbing activities may occur during this period if a biologist implements measures to avoid the habitat and the impacts and mitigation are consistent with the HCP. Measures could include directing crews on access, use of erosion/sediment fencing, use of access mats, and other techniques to avoid direct or indirect effects. PG&E may seek guidance from USFWS as to the suitability of additional measures to avoid or minimize take of this species.	Longhorn fairy shrimp

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species (Continued)

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Hot Zone Avoidance and Minimization Measures (continued)			
Biologist/ Field Crew	Hot Zone-3	A biologist will survey for host and nectar plants (lupine, thistles, viola) prior to activity commencement and flag off-road access for vehicles or identify if foot access or ATVs are necessary. In cases where plants cannot be avoided activities will only be allowed during flight period, March 1 – July 15, to reduce the risk of butterfly mortality. PG&E will avoid and minimize the introduction or spread of noxious weeds from vehicular traffic through employee education, minimizing off-road travel, and inspecting vehicles to be sure they are not transporting observable noxious weeds.	San Bruno elfin butterfly, Callippe silverspot butterfly, Mission blue butterfly (San Bruno Mountain)
Biologist/ Field Crew	Hot Zone-4	A biologist will survey for host and nectar plants (naked-stem buckwheat) prior to activity commencement and flag off-road access for vehicles or identify if foot access or ATVs are necessary. In cases where plants cannot be avoided activities will only be allowed during flight period, August 1– September 30, to reduce the risk of butterfly mortality. USFWS refuge biologist will be contacted if work is to occur on USFWS-owned refuge lands, and PG&E will adhere to USFWS guidance on methods to avoid and minimize effects.	Lange's metalmark butterfly (Antioch Dunes National Wildlife Refuge)
Biologist/ Field Crew	Hot Zone-5	A biologist will survey for host and nectar plants (dwarf plantain, purple owl's clover, or paintbrush) prior to activity commencement and flag off-road access for vehicles or identify if foot access or ATVs are necessary. In cases where plants cannot be avoided activities will be allowed during flight period, March 1–April 30. PG&E will avoid and minimize the introduction or spread of noxious weeds from vehicular traffic through employee education, minimizing off-road travel, and inspecting vehicles to be sure they are not transporting observable noxious weeds.	Bay checkerspot butterfly (Mapped serpentine grassland in Santa Clara County)
Biologist/ Field Crew	Hot Zone-6	Limit activities to foot access only when working off of established roadways unless a biological monitor flags off-road access routes for equipment that minimize impacts on habitat and species. This includes the identification and avoidance of vernal pools and stock ponds. Covered activities that cannot avoid vernal pool impacts will be completed when pools are clearly dry.	California tiger salamander (both Central California and Sonoma County DPSs)

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species (Continued)

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Hot Zone Avoidance and Minimization Measures (continued)			
Biologist/ Field Crew	Hot Zone-7	Activities that result in ground disturbance will occur May 1–October 30 (active season). Vegetation will be cut using hand tools to 3 inches in height. Once the ground is visible, a visual survey for San Francisco garter snake will be conducted by the biologist prior to additional ground disturbance. Field crews will install solid exclusion fencing if the work is in areas of known species presence. If work needs to occur during the inactive period (November 1–April 30) and is located in an area of known occupancy, flag and avoid any burrows by at least 10 feet wherever possible. If any burrows cannot be avoided by this distance, a biologist will inspect following activities to determine whether or not the burrow has been collapsed. If a burrow is collapsed, the biologist shall make efforts to open the burrow.	San Francisco garter snake
Biologist and Field Crew	Hot Zone-8	For activities that will result in ground disturbance in tidal marsh or coastal wetland habitat, including the removal of marsh vegetation, a biologist will flag access routes for crews when working in pickleweed (*Salicornia*) or smooth cordgrass (*Spartina alterniflora*) dominated habitats in order to minimize impacts on these species. Crews will hand-carry equipment and use protection mats (landing pads, pallets) to minimize ground disturbance when working within pickleweed or smooth cordgrass. Small areas of healthy vegetation will be cleared by hand prior to placement of protective mats. To avoid take of salt marsh harvest mouse, the biologist will assess the site to determine if: vegetation protection mats are appropriate, use of helicopters is needed, vegetation removal by hand is needed, and an onsite biological monitor is needed. Prior to placement of mats or removal of vegetation, the vegetation will be disturbed (i.e., flushed) to force movement of salt marsh harvest mouse into adjacent tidal marsh areas. Immediately following flushing, the field crew will place a mat or manually remove vegetation with nonmotorized tools (e.g., hoe, rake, trowel, or shovel) to the bare ground. Conduct work within 700 feet of wetlands suitable for the Ridgway's rail September 1–January 15.	Ridgway's rail, salt marsh harvest mouse (Marsh/Bay Fringe)

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Species-Specific Avoidance and Minimization Measures for Activities E9a (reconductoring) , E12–E14 (pole and tower line construction and substation expansion), and G16–18 (pipeline safety enhancement projects)			
Biologist and Field Crew	SJKF-1	A biologist will inspect the work site no more than 30 days prior to construction to determine if potential San Joaquin kit fox dens are present. If potential dens are located within the proposed construction footprint and cannot be avoided during construction, a biologist will determine if the dens are occupied. All potential dens within the construction footprint will be dusted with appropriate tracking substrate or monitored with a motion-sensor camera for a minimum of 3 days to determine occupancy unless scat, discarded bones, and tracks are observed and then the den is presumed occupied. Exit ramps will also be installed in these areas at both ends of the excavated areas. If potential San Joaquin kit fox dens are present within the construction footprint or within 200 feet of the construction boundary, disturbance and destruction will be avoided where possible. If the potential dens are determined to be unoccupied and cannot be avoided, no further action is needed. If an occupied or natal/pupping den is discovered within the construction area or within 200 feet of the project boundary, USFWS shall be immediately notified to discuss protective measures; if USFWS staff are unable to be reached, PG&E will set up exclusion zones, visual screens, and construction monitors to ensure direct mortality is avoided. Under no circumstances will the den be disturbed or destroyed.	San Joaquin kit fox (Grasslands in eastern Alameda, and southeastern Contra Costa Counties)
Biologist/ Field Crew/ HCP Administrator	Wetland-1	Identify vernal pools and establish buffers. Maintain a buffer of 250 feet around vernal pools and vernal pool complexes. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the biologist or HCP administrator to minimize impacts. These measures include flagging access, requiring foot access, restricting work until the dry season, requiring a biological monitor during the activity, or excavating burrows in ROWs where trenching will occur. Activities must maintain the downstream hydrology to the vernal pool or complex. Additional minimization measures may be implemented with prior concurrence from USFWS.	Vernal pool species, including California tiger salamander (both Central California and Sonoma County DPSs)
Biologist/ Field Crew	Wetland-2	Identify wetlands, ponds, and riparian areas and establish buffers. Maintain a buffer of 50 feet around wetlands, ponds, and riparian areas. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the biologist or HCP administrator to minimize impacts. These measures include flagging access, requiring foot access, restricting work until the dry season, requiring a biological monitor during the activity, or excavating burrows in ROWs where trenching will occur. Activities must maintain the downstream hydrology to the wetland, pond, or riparian area. Additional minimization measures may be implemented with prior concurrence from USFWS.	California freshwater shrimp, California tiger salamander (both Central California and Sonoma County DPSs), California red-legged frog, San Francisco garter snake

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species (Continued)

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Other Regional Planning Measures			
HCP Administrator	Minor New-1	For minor new construction activities under 2 miles in length, excluding upgrades and replacements, (G15, E12, E13, and E15), PG&E will notify the USFWS of the anticipated project and provide a summary of the activity. The summary will include information on HCP measures to avoid, minimize and mitigate the effects of the project on covered species, confirm there is adequate take authorization remaining for the covered species, and confirm that activity does not have a reasonably certain likelihood of take of listed non-covered species. If the USFWS has concerns about the work, they will notify PG&E within 5 business days and resolve the concerns within 10 days.	All covered species
HCP Administrator	Edgewood Park-1	When PG&E is planning a new gas pipeline extension or pipeline replacement project in Edgewood Park, PG&E will meet with the USFWS and affected stakeholders during the planning phase to provide an opportunity for input.	San Bruno elfin butterfly, Callippe silverspot butterfly, Mission blue butterfly and listed plants
Covered Plant Avoidance and Minimization Measures			
Field Crew	Plant-01	No herbicides will be used for vegetation management, pole clearing, or any other purpose within 100 feet of a Map Book zone (MBZ) (except vegetation management's direct application to cut stumps when greater than 25 feet from a MBZ and in conformance with applicable pesticide regulations).	All covered plants
Field Crew	Plant-02	Heavy equipment shall remain on access roads or other previously disturbed areas unless otherwise prescribed by a land planner, biologist, or HCP administrator.	All covered plants
Biologist/ Field Crew	Plant-03	Stockpile separately the upper 4 inches of topsoil during excavations associated with covered activities. Stockpiles topsoil will be used to restore the disturbed ROW.	All covered annual plants[a]
Biologist	Plant-04	When covered activities greater than 0.1 acre in size within a MBZ will have direct impacts on covered species, work with the crew to place flagging, fencing, or other physical exclusion barriers to minimize disturbances. If the work will directly impact covered plant species, implement Plant-05, -06, -07, and -08 AMMs.	All covered plants
Biologist	Plant-05	If a covered plant species is present and it cannot be avoided, PG&E will salvage plant material (i.e., seeds, cuttings, whole plants) and prepare a restoration plan that details the handling, storage, propagation, or reintroduction to suitable and appropriate habitat subject to USFWS review and approval.	All covered plants
Covered Plant Avoidance and Minimization Measures (continued)			
Biologist	Plant-06	If a covered annual plant species is present and it cannot be avoided, conduct covered activities after seeds have matured to the extent possible.	All covered annual plants[a]

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure
Biologist	Plant-07	If a covered perennial plant species is present and it cannot be avoided, conduct covered activities after seeds have matured to the extent possible. Minimize disturbance to the below-ground portions of the plants (e.g., roots, bulbs, tubers).	All covered perennial plants[b]
Biologist	Plant-08	PG&E will prune shrubs in a manner that promotes re-sprouting. If permanent impacts are unavoidable, establish new individuals by planting seedlings or from cuttings in adjacent suitable habitat. PG&E will implement best management practices including vehicle, equipment, and personnel hygiene protocols; procedures for conducting activities in infected areas; and timing restrictions that avoid working when soils are moist and the likelihood of spreading *P. cinnamomi* is greatest.	Pallid manzanita
Biologist/ Field Crew	Plant-09	PG&E will follow current best management practices to prevent the spread of Phytophthora when working on *gas transmission* facilities in the Map Book Zone for coyote ceanothus in Santa Clara County. PG&E will clean equipment (i.e., vehicles, equipment, tools, footwear and clothes) at designated cleaning stations before and after leaving these work locations. All PG&E staff and subcontractors working in these areas will be trained on the risks of spreading Phytophthora and will work to minimize the unnecessary movement of soil and plant materials when in this area. PG&E will also take care to prevent the spread or contamination during plantings or restoration activities. (See Phytophthoras in Native Habitats Working Group Recommendations, October 2016 for more information.)	Coyote ceanothus

Note: In some instances, biologists with additional training or permits will be used when PG&E is surveying for the covered species, species require handling, or other instances when take is likely.

[a] Covered annual plant species are Sonoma sunshine, Marin dwarf-flax, Burke's goldfields, Contra Costa goldfields, Sebastopol meadowfoam, white-rayed pentachaeta, and Metcalf Canyon jewelflower.

[b] Covered perennial plant species are pallid manzanita, coyote ceanothus, fountain thistle, Santa Clara Valley dudleya, Contra Costa wallflower, and Antioch Dunes evening primrose.

Table 5-2. Vegetation Management Best Management Practices to Reduce Environmental Impacts

BMP #	Best Management Practice
BMP 1 (FP-01)	PG&E employees and vegetation management contractors performing Vegetation Management activities shall receive ongoing environmental orientation. Orientation shall include review of environmental laws and guidelines that must be followed by all PG&E employees and contract vegetation management personnel to reduce or avoid impacts on covered species during vegetation management activities.
BMP 2 (FP-05)	Notify federal and state land managers of pending work, and schedule annual meetings with these land managers, as requested. Notify local agency land managers of pending work as requested, or as sensitive issues arise.
BMP 3 (FP-09)	During fire season in designated State Responsibility Areas, motorized equipment shall have federally approved or state-approved spark arrestors; all vehicles shall be equipped with firefighting tools as appropriate and in accordance with all applicable laws, rules, regulations, orders, and ordinances.
BMP 4	Contractor shall be responsible for checking the daily Project Activity Level (a measure of fire weather conditions that, at certain levels, restricts activities otherwise permitted) during fire season when working on U.S. Forest Service (USFS) property.
BMP 5	Smoking shall not be permitted during fire season, except in a barren area or in an area cleared to mineral soil at least 3 feet in diameter. Under no circumstances shall smoking be permitted during fire season while employees are operating light or heavy equipment or walking or working in grass and woodlands.

BMP #	Best Management Practice
BMP 6 (FP-08)	Hunting, firearms, portable stoves, open fires (such as barbecues) not required for the vegetation management activity, and pets (except for safety in remote locations) shall be prohibited in vegetation management work activity sites. All trash, food items, and human-generated debris shall be properly contained and/or removed from the site.
BMP 7 (FP-07)	To avoid hitting or crushing wildlife in the roadway and to avoid generating dust, vehicles will not exceed a speed limit of 15 miles per hour on low-use unpaved roads such as agricultural field roads, transmission right-of-way roads, and non-system numbered USFS roads with locked gates. Travel on high-use unpaved roads such as USFS logging roads shall be as slow as local traffic conditions allow.
BMP 8	All roads, fences, and structures damaged as a result of vegetation management operations shall be repaired and reported to the work group supervisor and the PG&E vegetation management representative. All gates shall be left open if found open or locked if found locked.
BMP 9 (FP-02, FP-03)	Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. In environmentally sensitive areas, vehicle access to work sites shall be restricted to existing roadways.
BMP 10 (FP-15)	When practical, fuel vehicles and equipment offsite. If it is necessary to fuel onsite the following precautions shall be taken: No vehicles or equipment shall be refueled within 250 feet of vernal pools, and 100 feet of a watercourse, ditch, wetland, or a pond, unless a bermed and lined refueling area is constructed. The fueling operator must stay with the fueling operation at all times. Do not top off tanks. Spill containment and cleanup materials must be available. Spills must be immediately cleaned up and contaminated materials disposed of properly. Fueling trucks and operators must have all necessary permits, licenses and training. Any spills must be reported immediately to supervisor and PG&E vegetation management representative.
BMP 11	Debris that remains from lop and scatter operations shall be left at a height no greater than 18 inches.
BMP 12 (FP-11)	After vegetation management activities, if the amount of bare soil exposed in one location exceeds 0.1 acre, then erosion control measures shall be implemented. These measures may include straw mulching, seeding, and use of straw waddles. (No rice straw will be used around wetlands containing vernal pools.)
BMP 13 (FP-16, Wetland-1)	Avoid operating vehicles and equipment within 250 feet (or the maximum distance practicable) of the edge of a vernal pool and, to the extent practicable, avoid walking through a vernal pool.

Table 5-2. Vegetation Management Best Management Practices to Reduce Environmental Impacts (Continued)

BMP #	Best Management Practice
BMP 14	When routine vegetation management activities are conducted in an area of potential valley elderberry longhorn beetle habitat, a qualified individual will survey for the presence of elderberry plants within a minimum of 20 feet from the work site within the utility easement, ROW, franchise, or license, and shall note in vegetation management work request documents to avoid or minimize potential impacts on elderberry plants. If elderberry plants have one or more stems 1 inch or more in diameter at ground level, additional measures identified in the *Valley Elderberry Longhorn Beetle Conservation Plan* shall be implemented. Otherwise, no additional minimization, avoidance, or protective measures are required.
BMP 15 (FP-18)	When vegetation management staff is aware of known active northern spotted owl nests through either the CNDDB viewer or property owner information, PG&E will implement the following. If the work is within 0.25 mile of a known active nest(s), the work will be performed either during a limited operating period of August 1 to January 31, or, if the work falls within the breeding period and is within 300 feet of the nest, the PG&E Avian Protection Program manager will be contacted for guidance and work will be performed as directed by the Avian Protection Program manager. If the work is scheduled during breeding season and if the work is 300 feet to 1/4-mile from the nest, work will be performed using hand tools (not chainsaws) or hydraulic pruners if the work is accessible from a regularly trafficked roadway. If the work cannot be performed with hand tools or hydraulic tools, then vegetation management staff will contact the Bird Program manager for guidance. In locations where known active nests occur, vegetation management staff will increase pruning distances from the conductors or pursue tree/brush removals in order to minimize the number of return visits to the area.
BMP 16	All PG&E employees and contractors shall follow the Vegetation Management Migratory Bird Process, when applicable to vegetation management activities, to comply with Migratory Bird Treaty Act.

BMP #	Best Management Practice
BMP 17	When performing work in counties subject to the Sudden Oak Death quarantine, Vegetation Management Sudden Oak Death Protocols must be followed.
BMP 18	Vegetation management personnel shall verify that the environmental screening process was followed prior to conducting vegetation management activities associated with capital jobs and other non-vegetation management work. Vegetation management personnel shall follow any environmental protection measures identified for the job.
BMP 19	If cultural resources are found (e.g., old bottles, cans, buildings), they shall be left in place and undisturbed. If it is necessary to move or disturb them to complete the work, or if human remains are found, stop work and contact the PG&E vegetation management representative.
BMP 20	All equipment shall be permitted by the Air Resources Board as required, including portable equipment or new stationary equipment with internal combustion engines greater than 50 Brake HP, (e.g., tow-behind generators, chippers, and truck- or trailer-mounted air compressors and pumps).
BMP 21	When working within 50 feet of residences or government or commercial buildings, engine idling, noise, and odor should be minimized to the extent practicable. Also adhere to the restrictions noted in the Commercial Vehicle Idling Tailboard when working on school grounds or within 100 feet of a school (K–12 and below, including play areas and sports fields, and day care facilities).
BMP 22	Contractor shall have the ability to communicate quickly with their supervisor and/or PGE. This can be done by having a working cell phone or radio on the job site at all times or by identifying the closest area of cell phone reception or closest public telephone and familiarizing all employees with that location.
BMP 23	If an environmental protection incident occurs, such as accidental introduction of substances into waterways or wetlands, accidental taking of an endangered species, or hazardous material spills, etc., call your supervisor and the PG&E vegetation management representative immediately.

Table 5-2. Vegetation Management Best Management Practices to Reduce Environmental Impacts (Continued)

BMP #	Best Management Practice
BMP 24	Vegetation removal shall be completed without the use of self-propelled mechanical equipment (e.g., Hydro-ax, Brontosaurus, Slashbuster).
BMP 25 (FP-10)	The disturbance or removal of vegetation within the work area shall not exceed the minimum necessary to complete operations, subject to other public and health and safety directives governing the safe operations and maintenance of electric and gas facilities. Precautions shall be taken to avoid damage to non-target vegetation.
BMP 26	Cleared or pruned vegetation, grass clippings and woody debris (including chips) shall be disposed of in a legal manner. All cleared vegetation and debris, grass clippings and woody debris (including chips) shall be removed from any wetland, ditch, pond, or stream and placed or secured where they cannot re-enter the watercourse.
BMP 27	Vegetation that at mature height does not pose a threat to the conductors shall not be removed, unless the removal is required to maintain compliance with California Public Resource Code Section 4292 (pole clearing).
BMP 28	Any vehicles driven and/or operated within or adjacent to streams shall be checked and maintained daily to prevent leaks of materials that, if introduced to the water, could be harmful to aquatic life.
BMP 29 (Plant-02)	Vehicle access to streams and wetlands shall be limited to existing roads and crossings.
BMP 30	When possible, activities near streams, wetlands, or on saturated soils shall be conducted during the dry season (generally May 15–October 15) or during periods of minimum flow. If it is not possible to perform the work in the dry season, perform rainy season work during dry spells between rain events.
BMP 31 (Plant-01)	All herbicide applications performed by vegetation management contractors shall be made in compliance with label requirements as well as all appropriate federal, state, and local laws, rules, and regulations. Note: Use of herbicides and pesticides is not covered activities under the HCP.
BMP 32	Only herbicides registered by the federal Environmental Protection Agency and California Environmental Protection Agency shall be applied.
BMP 33	During the performance of Vegetation Management ROW Enhancement Operations, operator ID numbers and Site ID numbers shall be obtained for each facility as required by the County Agricultural Commissioner.
BMP 34	Each application shall be covered by a written *Pest Control Recommendation*.

BMP #	Best Management Practice
BMP 35	A Licensed Pest Control Advisor shall oversee all herbicide and tree growth regulator applications. A qualified applicator shall supervise contractors making herbicide and tree growth regulator applications for vegetation management.
BMP 36	County Agricultural Commissioners shall be invited to inspect the applicator and application operations when appropriate.
BMP 37	The Pest Control Business License holder (applicator) shall report herbicide use monthly to the County Agricultural Commissioner.
BMP 38	Contractor shall conduct annual worker safety training sessions for all contractor employees involved in the herbicide applications and manual/mechanical clearing. As requested, documentation of this training shall be on file with the PG&E representative who administers their contract.
BMP 39 (Plant-01)	Selective application techniques should be used for Vegetation Management ROW Enhancement Operations wherever practical so that desirable vegetation is not adversely affected.
BMP 40	Buffer widths shall apply pursuant to *Vegetation Management Herbicide Buffer Widths to Protect Non-Target Organisms* as identified on product packaging.

Table 5-2. Vegetation Management Best Management Practices to Reduce Environmental Impacts (Continued)

BMP #	Best Management Practice
BMP 41	Mixing and loading of herbicides is prohibited in watercourse protection zones (see BMPs 60 and 61 for watercourse protection zones).
BMP 42	Applicator shall have a spill prevention and cleanup kit in their vehicle and at the job site.
BMP 43	Backpack equipment or light-capacity power equipment shall be used for all directed foliar applications.
BMP 44	Empty herbicide containers shall be taken offsite, triple rinsed, and disposed of in a proper manner.
BMP 45	Minimum operating pressures shall be used. Nozzle tips that produce a coarser droplet should be used to minimize drift.
BMP 46	Pesticides shall not be transported in the same compartment with persons, food, or feed. Pesticide containers shall be secured to the vehicle during transportation in a manner that shall prevent spillage into or off the vehicle.
BMP 47	The contractor shall have a written training program for employees who handle pesticides. The written program must describe the materials and the information that shall be provided and used to train the employees.
BMP 48	Training must be completed before an employee is allowed to handle any pesticide and continually updated to cover any new pesticides that shall be handled. Training must be repeated at least annually thereafter.
BMP 49	These special precautions shall be observed during periods of inclement weather: Applications shall not be made in, immediately prior to, or immediately following rain when runoff could be expected. Applications shall not be made when wind and/or fog conditions have the potential to cause drift. Basal bark applications shall not be made when stems are wet with rain, snow, or ice.
BMP 50	Prior to any ROW clearing project or any enhancement project, the CNDDB shall be checked for any records of threatened, endangered, or sensitive species.
BMP 51	Any locations identified through the CNDDB search shall be flagged and appropriate avoidance measures shall be put in place. Tailboards shall be held before work begins.
BMP 52 (Wetland-01, Wetland-02)	Sensitive habitats such as meadows, riparian areas, wetlands, vernal pools, and serpentine outcrops shall be flagged, and appropriate avoidance measures shall be put in place. Tailboards shall be held before work begins.
BMP 53	All existing roads shall be kept open and erosion control measures re-installed after the project is completed or during inclement weather.
BMP 54	Contractor shall clear all vegetation 10 feet around and under all towers/poles and guy wires. Only manual clearing work can occur within the above-mentioned 10 feet. No mechanical equipment shall be used within 10 feet of the above-mentioned structures. All vegetation cut under and within 10 feet of the towers shall be removed from the area and mulched to a depth not greater than 18 inches.

BMP #	Best Management Practice
BMP 55	All debris that remains from mowing operations shall be mulched to a depth not greater than 18 inches.
BMP 56	Trees greater than 12 inches in diameter at breast height shall be hand-felled and then the top and limbs removed, and the bole decked on the side of the ROW.
BMP 57	Contractor shall flag all guy wires 200 feet in advance of working an area, using bright colored flagging (a minimum of three flags per wire).

Table 5-2. Vegetation Management Best Management Practices to Reduce Environmental Impacts (Continued)

BMP #	Best Management Practice
BMP 58	Contractor shall have a water source containing a minimum of 300 gallons of water and 250 feet of 1-inch hose onsite at all times during operation. The water source must either be self-propelled or always attached to a vehicle capable of moving it to where it is needed. Where access/terrain allows, contractor's water source must always be within 500 feet of the mowing/cutting operation. Excess water shall be disposed of in accordance with all laws and regulations.
BMP 59	Each mower shall have a minimum of a 10-pound, Class A, B, C fire extinguisher mounted in the cab.
BMP 60	Contractor must stay onsite for one-half hour after mowing operations end for the day to ensure fire safety. When extreme fire levels are reached, the following extra precautions must be implemented immediately. • An additional support person shall be dedicated to follow the mower with an Indian Back Pump and McLeod. • Mowing hours will be reduced to the hours of 5:00 a.m. through 12:30 p.m. • The use of a humidity meter shall occur. A reading of less than (<) 20% humidity shall stop the mowing operation for the day. Readings shall be taken every 3 hours during operation.
BMP 61	Watercourse protection zones shall be marked by the PG&E representative in charge with brightly colored flagging prior to the start of any mowing/timber operation. Water classes are defined by the California Forest Practice Rules (14 California Code of Regulations Section 916.5). The following watercourse protection zone clearances must be maintained at all times. • Class 1 and 2 watercourses with a slope < 30%: No heavy equipment within 50 feet. • Class 1 and 2 watercourses with a slope > 30%: No heavy equipment within 75 feet. • Class 3 watercourse: No heavy equipment within 25 feet. • Unclassified watercourses with a defined channel: No heavy equipment within 25 feet. No mowing shall be allowed within the above distances. Trees within the above distances shall be removed manually. Brush and other small vegetation shall be left for a shade canopy on the watercourse. The actual width of the watercourse protection zone may vary based on a PG&E representative's judgment in the field. All impaired watercourses and their protection zone clearances shall be identified before the project begins.
BMP 62	The following protection measures are designed to prevent adverse impacts on water quality, help protect soil resources, and minimize the loss of riparian vegetation. 1. Plants in watercourse protection zones that do not pose an imminent or clearly foreseeable future threat to conductors shall not be removed. 2. To help prevent erosion and soil displacement, exclusion zones may be increased in areas with steep slopes or highly erodible soils. 3. Leave at least 50% soil cover (i.e., mulch or vegetative ground cover) for erosion control in watercourse protection zones.