

3.4 BIOLOGICAL RESOURCES

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3.4.1 Definitions

Sensitive Vegetation Communities/Habitats

Sensitive vegetation communities/habitats are those identified in local or regional plans, policies, or regulations, or designated by CDFW or USFWS. CDFW's Rarity Ranking follows NatureServe's Heritage Methodology (Faber-Langendoen, et al. 2016) in which communities are given a G (global) and S (state) rank based on their degree of imperilment (as measured by rarity, trends, and threats). Communities with a Rarity Ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) are considered sensitive by CDFW.

For the purposes of this IS/MND, sensitive habitats also include:

1. Areas that provide habitat for locally unique biotic species/communities (e.g., oak woodlands, grasslands, and forests)
2. Habitat that contains or supports rare, endangered, or threatened wildlife or plant species as defined by CDFW and USFWS
3. Habitat that supports CDFW Species of Special Concern
4. Areas that provide habitat for rare or endangered species and that meet the definition in CEQA Guidelines Section 15380
5. Existing game and wildlife refuges and reserves
6. Lakes, wetlands, estuaries, lagoons, streams, and rivers
7. Riparian corridors

Special-Status Species

Special-status species are legally protected under the state and federal Endangered Species Acts (ESA) or other regulations, or are species that are considered sufficiently rare by the scientific community to qualify for such listing. These species are classified under the following categories:

1. Species listed or proposed for listing as threatened or endangered under the federal ESA (50 CFR § 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [FR] [proposed species]);
2. Species that are candidates for possible future listing as threatened or endangered under the federal ESA (61 FR § 40, February 28, 1996);
3. Species listed or proposed for listing by the State of California as threatened or endangered under the California ESA (14 CCR § 670.5);
4. Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 *et seq.*);
5. Species that meet the definitions of rare and endangered under CEQA. CEQA Guidelines Section 15380 provides that a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists;

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6. Plants considered by the California Native Plant Society (CNPS) to be “rare, threatened or endangered in California” (California Rare Plant Rank 1A, 1B, 2A, and 2B) as well as California Rare Plant Rank 3 and 4 plant species;
7. Species designated by CDFW as Fully Protected or as a Species of Special Concern;
8. Species protected under the federal Bald and Golden Eagle Protection Act;
9. Birds of Conservation Concern or Watch List species; and
10. Bats considered by the Western Bat Working Group to be “high” or “medium” priority (Western Bat Working Group 2015).

3.4.2 Approach to Data Collection

Literature and Database Reviews

The following sources of information and databases were reviewed to identify sensitive vegetation communities/habitats and special-status species that could occur in the project study area:

- Aerial photographs
- California Natural Diversity Database (CNDDDB) (CDFW 2016)
- USFWS Sacramento Office Website (USFWS 2016)
- CNPS Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2016)
- Santa Rosa Plain Conservation Strategy (SRPCS) (USFWS 2005a)

The background research for biological resources was focused on the following 7.5-minute USGS quadrangles that encompass (Healdsburg quadrangle) and surround the proposed project:

- | | | |
|---------------------|---------------|---------------|
| • Healdsburg | • Camp Meeker | • Geyserville |
| • Mark West Springs | • Santa Rosa | • Guerneville |
| • Mount St. Helena | • Sebastopol | • Jimtown |

A complete list of special-status plants and wildlife identified during literature and database reviews are listed in Appendix D, Tables D-1 and D-2. The special-status species identified in Tables D-1 and D-2 were evaluated for their potential to occur in the project study area based on the results of pedestrian surveys and the presence or absence of potentially suitable habitat for each species.

Pedestrian and Remote Surveys

PG&E conducted multiple pedestrian surveys and site investigations within the project study area between 2011 and 2017 to identify biological resources, assess habitat, and designate vegetation communities and land cover types. The survey extent for each pedestrian survey is shown on Figure D-1 in Appendix D. Pedestrian surveys were conducted for 85 percent of the project study area. Approximately 11 percent of the project study area was surveyed remotely using aerial imagery where steep canyons made access too difficult and unsafe, and where conductor spans would be too high for ground equipment to access the line, such as over

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ravines, valleys, and canyons (GANDA 2012). Remotely-surveyed areas are also shown on Figure D-1 in Appendix D. The remaining 4 percent of the project study area that was not surveyed includes small fragmented areas adjacent to surveyed areas that are highly similar and/or located near highly disturbed, developed, or agricultural areas.

The following survey reports were reviewed by the CPUC team to assess baseline conditions for biological resources identified in the project study area:

- **Biological Resources Survey Report (BRTR).** Summarizes the results of focused rare plant surveys¹, vegetation mapping, wetlands delineation, and habitat-level wildlife surveys conducted in April, May, June, and August 2011, and February, April, and June 2012 (GANDA 2012).
- **BRTR Addendums #1, #2, #3, and #4.** Summarizes the results of reconnaissance-level field surveys conducted in March and September 2015, March 2016, October 2016, and February 2017 (TRC 2016d, TRC 2016c, TRC 2015b, TRC 2017a).
- **Bat Habitat Assessment.** Documents the results of bat surveys and visual and acoustic monitoring conducted in July 2015 (GANDA 2015a).
- **Raptor Nesting Assessment.** Documents the results of raptor surveys conducted during the nesting season in March and May 2015 (GANDA 2015b).
- **Water Crossing Assessment.** Provides the locations and details of potentially jurisdictional waters, wetlands, and riparian areas located within the project study area, and proposed methods to minimize or avoid impacts on each feature (GANDA 2016).
- **Preliminary Jurisdictional Wetland Delineations.** Documents the results of a wetland delineation conducted for potentially jurisdictional wetlands on March 2016, April 2016, and May 2017 (TRC 2015a, TRC 2016a, TRC 2017b, TRC 2017c, GANDA 2017a).
- **California Red-Legged Frog (CRLF) Habitat Assessment.** Documents the results of a CRLF survey and habitat assessment at breeding sites located within 1 mile of the proposed project (Swaim Biological, Inc. 2016).
- **Foothill-Yellow Legged Frog (FYLF) Habitat Assessment.** Documents the results of a survey and habitat assessment at creeks that would be crossed by the proposed project (GANDA 2017b).

Pacific Biology, under contract to the CPUC, conducted an independent field and desktop review of vegetation-mapping GIS data prepared by GANDA and TRC. Pacific Biology identified classification and boundary refinements that were necessary to improve the accuracy of the mapping. The vegetation mapping was refined to address these issues, and the mapping coverage was extended to include all areas of the project study area.

¹ Focused plant surveys were only conducted for a portion of the Northern Segment. Refer to the biological survey area for the BRTR (GANDA 2012) shown on Figure D-1 in Appendix D.

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3.4.3 Environmental Setting

Vegetation Communities and Land Cover Types

Vegetation communities that occur in the project study area are shown on Figure D-2 in Appendix D. Table 3.4-1 includes descriptions of the vegetation communities and land cover types identified in the project study area, including their approximate percentage of the total study area.

Table 3.4-1 Vegetation Communities and Land Cover Types in the Project Study Area

Category	Description	Percent of Project Study Area
Natural Vegetation Communities		
Oak Woodland/ Forest	<p>Coast Live Oak Woodland and Forest. The canopy is dominated by coast live oak (<i>Quercus agrifolia</i>). Other tree species such as madrone (<i>Arbutus menziesii</i>), blue oak (<i>Quercus douglasii</i>), Oregon oak (<i>Quercus garryana</i> ssp. <i>garryana</i>), and California bay (<i>Umbellularia californica</i>) are common; occasionally California buckeye (<i>Aesculus californicus</i>) are present. Common woody plants in the understory include poison oak (<i>Toxicodendron diversilobum</i>) and hairy honeysuckle (<i>Lonicera hispidula</i> var. <i>vacillans</i>). Common herbaceous species include slender wild oat (<i>Avena barbata</i>), rattlesnake grass (<i>Briza maxima</i>), wavy-leaf soaproot (<i>Chlorogalum pomeridianum</i>), hedgehog dogtail (<i>Cynosurus echinatus</i>), blue wildrye (<i>Elymus glaucus</i>), purple needlegrass (<i>Nassella pulchra</i>), and common hedge parsley (<i>Torilis arvensis</i>). Coast live oak woodland has an intermittent canopy with a grassy, open understory, while coast live oak forest has a more closed canopy.</p> <hr/> <p>Mixed North Slope Cismontane Woodland. The overstory of this woodland contains the same mixture of species as in coast live oak woodland; however, in the mixed north slope cismontane woodland, no single species regularly dominates the overstory. Common tree species include California buckeye, madrone, coast live oak, blue oak, gary oak, and California bay. California black oak (<i>Quercus kelloggii</i>) and grey pine (<i>Pinus sabiniana</i>) are also present, though in smaller quantities. Shrub species include common manzanita (<i>Arctostaphylos manzanita</i>), coyote brush (<i>Baccharis pilularis</i>), hairy honeysuckle (<i>Lonicera hispidula</i>), snowberry (<i>Symphoricarpos mollis</i>), and poison oak. The herbaceous layer in this mixed woodland is similar to that of the coast live oak woodland.</p> <hr/> <p>Oregon Oak Woodland. This woodland type is dominated by well-spaced, medium-sized Oregon oak trees. Other trees such as California buckeye, madrone, coast live oak, and blue oak are scattered throughout the overstory. Common woody plants in the understory include poison oak, hairy honeysuckle, and snowberry. The herbaceous layer contains grasses and herbs that are also common to both coast live oak woodland and grasslands. This community type integrates with coast live oak woodland and mixed north slope cismontane woodland. Oregon oak woodland is a sensitive plant community, ranked S1 by CNPS.</p> <hr/> <p>Central Coast Live Oak Riparian Forest. The canopy is dense, multi-storied, and tall, often up to 50 feet. Although coast live oak is the dominant tree in the dense overstory of these riparian corridors, these forests have a more</p>	43%

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Category	Description	Percent of Project Study Area
	<p>evenly-mixed canopy than upland coast live oak communities. This community includes broad-leaved and riparian trees such as big-leaf maple (<i>Acer macrophyllum</i>), California buckeye, Valley oak (<i>Quercus lobata</i>), interior live oak (<i>Quercus wislizenii</i>), red willow (<i>Salix laevigata</i>), and arroyo willow (<i>Salix lasiolepis</i>). Common understory shrubs include blackberry (<i>Rubus armeniacus</i>, <i>Rubus ursinus</i>), snowberry, and poison oak. The streams contain a mix of hydrophytic herbs such as tall nutsedge (<i>Cyperus eragrostis</i>), dense willow-herb (<i>Epilobium densiflorum</i>), pennyroyal (<i>Mentha pulegium</i>), seep-spring monkeyflower (<i>Mimulus guttatus</i>), rabbit's foot grass (<i>Polypogon monspeliensis</i>) and, on rocks below ordinary high water, the moss <i>Scleropodium</i>.</p> <p>Blue Oak Woodland. Blue oak woodland is dominated by well-spaced, medium-sized blue oak trees. The understory consists of the same grasses and herbs discussed below under Grasslands.</p>	
Grassland	Grasslands consist of areas dominated by low-growing grasses and herbs, with few trees and/or shrubs. Common species in the grasslands are Spanish lotus (<i>Acmispon americanus</i>), barbed goatgrass (<i>Aegilops triuncialis</i>), slender wild oat, purple false brome (<i>Brachypodium distachyon</i>), rattlesnake grass, ripgut brome (<i>Bromus diandrus</i>), soft chess (<i>Bromus hordeaceus</i>), sterile brome (<i>Bromus sterilis</i>), hedgehog dogtail, medusahead (<i>Elymus caput-medusae</i>), blue wildrye, stork's-bills (<i>Erodium botrys</i>), six weeks rattail fescue (<i>Festuca myuros</i>), rye grass (<i>Festuca perennis</i>), Harding grass (<i>Phalaris aquatica</i>), purple needlegrass, little hop clover (<i>Trifolium dubium</i>), and rose clover (<i>Trifolium hirtum</i>). Some areas support non-dominant native wildflowers such as clarkias (<i>Clarkia</i> sp.), lupines (<i>Lupinus</i> sp.), and leptosiphon (<i>Leptosiphon</i> sp.).	30%
California Bay Forest	California bay dominates the overstory in California bay forest. Coast live oak and madrone are present in the understory. A small patch of California-tea (<i>Rupertia physodes</i>) occurs at the edge of this forest type.	<1%
Douglas-Fir Forest	Douglas-fir (<i>Pseudotsuga menziesii</i>) dominates the overstory. California bay and madrone occur in the sub-canopy.	<1%
Eucalyptus	A small stand of eucalyptus (less than an acre) dominated by tall red gum trees (<i>Eucalyptus camaldulensis</i>) was observed growing on a ridge in the central portion of the project study area.	<1%
Disturbed/Developed		
Mixed Agricultural Land	Lands in the project study area are used for grazing horses or cropland, including fallow fields that are disked. Cultivated grape (<i>Vitis vinifera</i>) vineyards and fallow vineyards are located in numerous areas within the project study area. An abandoned orchard and a small maintained orchard were included in this category. The vineyards are managed with even-aged grape vines and a mowed ruderal understory. Common understory species include wild oat, soft chess, ripgut brome, various types of filaree, black medic (<i>Medicago lupulina</i>), English plantain (<i>Plantago lanceolata</i>), little hop clover, rose clover, and subterranean clover (<i>Trifolium subterraneum</i>). Fallow vineyards are dominated by a thick, weedy coverage of wild oat, field mustard (<i>Brassica rapa</i>), common mallow (<i>Malva neglecta</i>), Harding grass, blessed milk thistle (<i>Silybum</i>	15%

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Category	Description	Percent of Project Study Area
	<i>marianum</i>), scarlet clover (<i>Trifolium incarnatum</i>), and winter vetch (<i>Vicia villosa</i>).	
Bare Soil/Heavily Disturbed	Unpaved and heavily disturbed bare soil occurs within the project study area. These areas are sparsely vegetated, if at all.	1%
Developed Areas	Developed areas comprise large portions of the project study area. Development areas include residential developments, roadways, schools, urban parks, existing substations, and other paved or landscaped areas.	11%

Sources: (GANDA 2012, TRC 2015b, TRC 2016b, TRC 2016c, TRC 2017a, Pacific Biology 2017)

On the maps provided in Appendix D, only “oak woodland/forest” is shown. Subcategories may be mapped prior to construction, if needed to define mitigation (see project impacts). It is assumed that any of the areas mapped as oak woodland/forest could contain Oregon oak woodland.

Waters and Wetlands

Open waters, seasonal and perennial watercourses, seasonal wetlands, and riparian corridors (e.g., riparian habitat) occur within the project study area. These aquatic resources may be subject to USACE, CDFW, and/or Regional Water Quality Control Board (RWQCB) jurisdiction. The location of potentially jurisdictional waters and wetlands is provided in Appendix F.

This IS/MND divides the analysis of waters and wetlands into two parts. Water bodies, such as seasonal watercourses, perennial watercourses, open water, and drainage ditches, are described in Section 3.9: Hydrology and Water Quality. Wetlands and riparian areas are described and analyzed in this section. The area of potentially jurisdictional waters and wetlands occurring in the project study area is listed in Table 3.4-2.

Table 3.4-2 Potential Jurisdictional Wetlands and Riparian Habitat Identified during Pedestrian Surveys

Type	Potentially Jurisdictional Area (acres)		
	USACE	RWQCB	CDFW
Seasonal Wetlands (as defined by USACE)	2.1	2.1	2.1
Riparian Habitat	–	–	4.0

Sources: (GANDA 2012, TRC 2015a, TRC 2016c, TRC 2016a, TRC 2017b, TRC 2017c, GANDA 2017a)

Habitat Assessment

Special-status species that were observed during pedestrian surveys (“present”) or have potential to occur in the project study area, are addressed in this section. Special-status species that are not expected to occur in the project study area are not addressed any further in this section.

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Special-status plant and wildlife species reported to the CNDDDB within the USGS quadrangles surrounding the project study area, and their potential for occurrence in the project study area, are presented in Table D-1 and Table D-2 in Appendix D. Table 3.4-3 lists the probability ratings and criteria that were assigned to special-status species in regard to their potential to occur in the project study area.

Table 3.4-3 Criteria for Determining the Probability of Species Presence

Probability Rating	Criteria
Present	Species detected during recent surveys within the project study area.
High Potential	Species with known recent (i.e., last 25 years) recorded occurrences/populations in the project study area or nearby, and for which highly suitable habitat occurs within or adjacent to the project study area. Suitable habitat includes all necessary elements to support the species (e.g., hydrology, soils, vegetation composition, and structure).
Low to Moderate Potential	Species with known recent (i.e., last 25 years) recorded occurrences/populations in the project study area or nearby; however, suitable habitat in or adjacent to the project study area is marginal to low quality. Suitable habitat could be fragmented or small in size. A “moderate potential” assessment was also made for species with no or few known recent recorded occurrences/populations, but that have highly suitable habitat within or adjacent to the project study area. A “low potential” assessment was made for species with no known occurrences in or near the project study area, but for which potentially suitable habitat is present within or near the project study area.
Not Expected	Species with no known recent (i.e., last 25 years) recorded occurrences/populations nearby, and habitat, if present, is of marginal or low quality, or species with no suitable habitat in the project study area.

Special-Status Plants

No special-status plants were documented in the project study area during focused plant surveys conducted in 2011 and 2012². A total of 73 special-status plant species were documented in the project vicinity (i.e., within the USGS 7.5-minute quadrangles queried). Of these 73 species, 22 have high or moderate potential to occur, and 51 are not expected to occur in the project study area based on the habitat types present or other factors. Table 3.4-4 includes a summary of the 22 special-status plants with a moderate or high potential to occur in the project study area.

² Focused plant surveys were only conducted in portions of the project study area in the Northern Segment. Focused plant surveys were not conducted in the project study area in the Southern Segment, which is surrounded by residential land uses and substantially disturbed or developed.

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Table 3.4-4 Special-Status Plant Species with Moderate or High Potential to Occur in the Project Study Area

Common Name <i>Scientific Name</i>	Fed./State/ CRPR Status	Habitat/Blooming Period	Potential to Occur in the Project Study Area
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	--/--/1B.1	Vernal pools, meadows and seeps, and similar mesic areas in cismontane woodland, valley and foothill grassland, and lower montane coniferous forest. 16 to 5,709 feet. (April to July)	Moderate. Suitable habitat (seasonal wetlands, drainages) are present in the project study area. Known to occur within 5 miles.
Bent-flowered fiddleneck <i>Amsinckia lunaris</i>	--/--/1B.2	Cismontane woodland, valley and foothill grassland, coastal scrub. 10 to 1,640 feet. (March to June)	Moderate. Suitable habitat present in large portions of the project study area, but no occurrence records are known within 5 miles.
Big-scale balsamroot <i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	--/--/1B.2	Valley and foothill grassland, chaparral, and cismontane woodland. Sometimes on serpentine. 295 to 5,102 feet. (March to June)	Low. Suitable vegetation types throughout large portions of project study area, but no preferred serpentine substrates. Not known to occur within 5 miles, but range of the species is very scattered.
Burke's goldfields <i>Lasthenia burkei</i>	FE/SE/1B.1	Vernal pools, meadows and seeps. 49 to 1,968 feet. (April to June)	Low. Limited amounts of somewhat suitable habitat (seasonal wetlands and drainages) scattered throughout the project study area, particularly at north end. Known to occur within 5 miles.
Calistoga ceanothus <i>Ceanothus divergens</i>	--/--/1B.2	Rocky, serpentine, or volcanic sites, in chaparral or cismontane woodland. 558 to 3,117 feet. (February to April)	Low. Somewhat suitable vegetation type (cismontane woodland) and patches of suitable rocky habitat occasional in project study area. No serpentine habitats present. Known to occur within 5 miles.
Dwarf downingia <i>Downingia pusilla</i>	--/--/2.2	Vernal pools and similar mesic sites in valley and foothill grassland. 3 to 1,460 feet. (March to May)	High. Suitable habitat (seasonal wetlands in grassland) present in the project study area, particularly at the north end. Range widely scattered.
Fragrant fritillary <i>Fritillaria liliacea</i>	--/--/1B.2	Coastal scrub, valley and foothill grassland, and coastal prairie. Often found on serpentine. 10 to 1,345 feet. (February to April)	Moderate. Grassland habitat is present in portions of the project study area. No serpentine soils present. Known to occur within 5 miles.

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Common Name <i>Scientific Name</i>	Fed./State/ CRPR Status	Habitat/Blooming Period	Potential to Occur in the Project Study Area
Green's narrow-leaved daisy <i>Erigeron greenei</i>	--/--/1B.2	Serpentine and volcanic soils in chaparral or cismontane woodland. 262 to 3,297 feet. (May to September)	Low. Somewhat suitable habitat (volcanic soils in cismontane woodland) scattered throughout the project study area. No serpentine soils present. Not known to occur within 5 miles, but species range is scattered.
Jepson's leptosiphon <i>Leptosiphon jepsonii</i>	--/--/1B.2	On volcanic soil or the periphery of serpentine substrates, in chaparral and cismontane woodland. 328 to 1,640 feet. (March to May)	Moderate. Suitable habitat (cismontane woodland on volcanic soil) is scattered throughout the project study area, but serpentine soils not present. Several occurrences known from within 5 miles.
Legenere <i>Legenere limosa</i>	--/--/1B.1	Vernal pools. 3 to 2,887 feet. (April to June).	Low. No vernal pools present, but somewhat suitable habitat in larger seasonal wetlands, drainages, and edges of open water in the project study area. Not known to occur within 5 miles, but range is widely scattered around the survey area.
Marsh microseris <i>Microseris paludosa</i>	--/--/1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland. 16 to 984 feet. (April to July)	Moderate. Suitable habitat is common in the project study area. Not known to occur within 5 miles.
Napa false indigo <i>Amorpha californica</i> var. <i>nepensis</i>	--/--/1B.2	Chaparral, cismontane woodland, and openings in broadleaved upland forest. 394 to 6,562 feet. (April to July)	High. Suitable habitat is present in large portions of the project study area and occurrence records are known to occur within 5 miles.
Narrow-anthered California brodiaea <i>Brodiaea californica</i> var. <i>leptandra</i>	--/--/1B.2	Volcanic soils in cismontane woodland, valley and foothill grassland, broadleaved upland forest, chaparral, and lower montane coniferous forest. 361 to 3,002 feet (May to July)	High. Suitable habitat is present in grassland, woodlands, and forest habitats in the project study area, and occurrence records are known within 5 miles.
North Coast semaphore grass <i>Pleuropogon hooverianus</i>	--/ST/1B.1	Meadows and seeps, and similar mesic areas in broadleaved upland forest and north coast coniferous forest. 33 to 2,201 feet. (April to June)	Low. Small amounts of somewhat suitable habitat in a few locations in larger seasonal wetlands and open water. Not known to occur within 5 miles, but range is widely scattered.
Oval-leaved viburnum <i>Viburnum ellipticum</i>	--/--/2.3	Chaparral, cismontane woodland, and lower montane coniferous forest. 705 to 4,593 feet. (May to June)	Moderate. Suitable habitat is present along most of the project study area, but at the low end of the species' known range. Known to occur within 5 miles.

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Common Name <i>Scientific Name</i>	Fed./State/ CRPR Status	Habitat/Blooming Period	Potential to Occur in the Project Study Area
Rincon Ridge ceanothus <i>Ceanothus confusus</i>	--/--/1B.1	Serpentine or volcanic soils in closed-cone coniferous forest, chaparral, and cismontane woodland. 246 to 3,494 feet. (February to June)	Moderate. Although serpentine substrates not present, generally suitable habitat (cismontane woodland with volcanic soil) is present throughout the project study area. Known to occur within 5 miles.
Rincon Ridge manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	--/--/1B.1	Chaparral and cismontane woodland, restricted to red rhyolites in Sonoma County. 246 to 1,214 feet. (February to May)	Moderate. Extensive suitable vegetation types, but only small amount of suitable rhyolite substrate present. Known to occur within 5 miles.
Seaside tarplant/pale yellow hayfield tarplant <i>Hemizonia congesta</i> ssp. <i>congesta</i>	--/--/1B.2	Valley and foothill grassland, sometimes on roadsides. 66 to 1,827 feet. (April to November)	Moderate. Suitable habitat present in portions of the project study area in grasslands. Known to occur within 5 miles.
Sebastopol meadowfoam <i>Limnanthes vinculans</i>	FE/SE/1B.1	Vernal pools and similar mesic areas in meadows and seeps, and valley and foothill grassland. 49 to 1,001 feet. (April to May)	Low. Limited amounts of somewhat suitable habitat (seasonal wetlands and drainages) scattered throughout the project study area, particularly at north end. Most wetlands do not appear deep/wet enough for this species. Known to occur within 5 miles.
Sonoma canescent manzanita <i>Arctostaphylos canescens</i> ssp. <i>sonomensis</i>	--/--/1B.2	Chaparral, lower montane coniferous forest. Sometimes serpentine. 590 to 5,485 feet. (January to June)	Moderate. No preferred serpentine habitat or chaparral, and very limited conifer forest within the project study area. Mixed north slope cismontane woodland within the project study area could provide habitat for the species. Known to occur within 5 miles.
Sonoma sunshine <i>Blennosperma bakeri</i>	FE/SE/1B.1	Vernal pools, and other mesic areas in valley and foothill grassland. 33 to 361 feet. (March to May)	Moderate. Suitable habitat in proximity to seasonal wetlands and drainages, particularly in grasslands at the north end of the project study area. Several occurrences known within 5 miles.
Vine Hill ceanothus <i>Ceanothus foliosus</i> var. <i>vineatus</i>	--/--/1B.1	Chaparral or cismontane woodland. 148 to 1,001 feet. (March to May)	Moderate. Suitable habitat (cismontane woodland) is present throughout large portions of the project study area. Not known to occur within 5 miles.

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Common Name <i>Scientific Name</i>	Fed./State/ CRPR Status	Habitat/Blooming Period	Potential to Occur in the Project Study Area
Notes:			California Rare Plant Rank (CRPR) status designations:
Federal status designations:			1A = assumed extinct in California
FE = federally endangered			1B = rare, threatened, or endangered in California and elsewhere
FT = federally threatened			2 = rare, threatened, or endangered in California, but more common elsewhere
State status designations:			CRPR threat ranks include:
SE = State endangered			.1 = seriously threatened
ST = State threatened			.2 = fairly threatened
			.3 = not very threatened

Sources: (GANDA 2012, TRC 2015b, TRC 2016b, TRC 2016c, CNPS 2017, TRC 2017a)

Special-Status Wildlife

Five special-status birds were identified during pedestrian surveys conducted for the proposed project. A total of 30 special-status wildlife species have been documented within the sampled USGS quadrangles based on the literature review and database queries. Of these 30 species, 26 species are present or have some potential to occur in the project study area. Table 3.4-5 includes a summary of the 26 special-status wildlife species that are present or have a potential to occur in the project study area.

Table 3.4-5 Special-Status Wildlife Species with Moderate or High Potential to Occur in the Project Study Area

Common Name <i>Scientific Name</i>	Fed./State/ Other Status	Habitat	Potential to Occur in the Project Study Area
Invertebrates			
California freshwater shrimp <i>Syncaris pacifica</i>	FE/SE/--	Shallow pools away from main streamflow. Must have perennial flows. Winters under exposed underwater roots; may be found in summer under leafy branches touching water.	Moderate. Potentially suitable habitat is present in low gradient streams that cross the project study area, including Pool, Wright, Windsor, and Mark West Creeks. Habitat is not present in any of the unnamed ephemeral streams. Based on the CNDDDB, the closest documented occurrence of the species is approximately 6 miles from the project study area.
Fishes			
California Coast chinook salmon <i>Oncorhynchus tshawytscha</i>	FT/--/--	Anadromous; migrates through San Francisco Bay and spawns in coastal rivers and creeks. Require beds of loose, silt-free, coarse gravel for spawning. Also need	Moderate. Project area is within the range of the California Coast evolutionarily significant unit (ESU). The larger creeks that cross the project study area provide potential habitat, including Mark West Creek, Windsor Creek, and Pool Creek.

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Common Name Scientific Name	Fed./State/ Other Status	Habitat	Potential to Occur in the Project Study Area
		cover, cool water, and sufficient dissolved oxygen.	Critical habitat is located within the Russian River to the north of the project study area.
Central California Coast coho salmon <i>Oncorhynchus kisutch</i>	FE/SE/--	Anadromous; migrates through San Francisco Bay and spawns in coastal rivers and creeks. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water, and sufficient dissolved oxygen.	Moderate. Project area is within the range of the Central California Coast ESU. The larger creeks that cross the project study area provide potential habitat, including Mark West Creek, Windsor Creek, and Pool Creek.
Central California Coast steelhead <i>Oncorhynchus mykiss irideus</i>	FT/--/--	Anadromous, migrates through San Francisco Bay, spawns in coastal rivers and creeks. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water, and sufficient dissolved oxygen	Moderate. The project study area is within the range of the California Coast ESU. The larger creeks that cross the project study area provide potential habitat, including Mark West Creek, Windsor Creek, and Pool Creek. In the project study area, Mark West Creek, Pool Creek, and an unnamed creek are designated critical habitat for the species.
Hardhead <i>Mylopharodon conocephalus</i>	--/CSC/--	Low to mid-elevation streams in the Sacramento-San Joaquin drainage. Also present in the Russian River. Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity.	Moderate. Potentially suitable habitat is present in creeks in the project study area. Based on the CNDDDB, the closest documented occurrence of the species is approximately 1 mile from the project study area.
Navarro roach <i>Lavinia symmetricus navarroensis</i>	--/CSC/--	Prefers pool habitats, with low water velocity. Found in warm intermittent streams as well as cold aerated streams. Confined to the Navarro River and its tributaries.	Moderate. Potentially suitable habitat is present in creeks in the project study area. Based on the CNDDDB, the closest documented occurrence of the species is approximately 1 mile from the project study area.
Russian River tule perch <i>Hysteroecarpus traski pomo</i>	--/CSC--	Low elevation streams of the Russian River system. Requires clear, flowing water with abundant cover. They also require deep (> 1 meter) pool habitat.	Moderate. Potentially suitable habitat is present in creeks in the project study area that are tributaries to the Russian River.
Amphibians			
California red-legged frog <i>Rana draytonii</i>	FT/CSC/--	Breeding sites include aquatic habitats including pools and backwaters within streams and creeks, ponds, marshes, springs, sag ponds, dune ponds, lagoons, and artificial impoundments, such as stock	Low. Suitable aquatic and upland habitat is present in the project study area, but the species has not been observed within approximately 10 miles of the project study area (CNDDDB) and the project study area is near the

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Common Name Scientific Name	Fed./State/ Other Status	Habitat	Potential to Occur in the Project Study Area
		ponds. Upland habitats include downed woody vegetation, leaf litter, and small mammal burrows that provide protection from predators and prevent desiccation.	periphery of the species' range. Additionally, no CRLF were observed during focused surveys of 34 aquatic sites within or near the project study area, and most of the surveyed sites contained factors that detract from habitat quality, such as introduced fish and bullfrogs, steep banks, and relatively little emergent vegetation.
California tiger salamander <i>Ambystoma californiense</i>	FT/ST/--	Vernal pools, stock ponds and/or other seasonal water sources; requires underground refuge sites in accessible upland areas.	Low. Portions of the project study area in the Southern Segment are within the geographic range of the Sonoma County population, within areas identified by the SRPCS as having potential for presence of California tiger salamander (CTS), and within designated CTS critical habitat. However, these portions of the study area are bordered by Highway 101, developed areas, paved roads, disked, and/or are vineyards, and are isolated from documented CTS occurrences. Portions of the project study area in the Northern Segment are within or bordering the SRPCS planning area, but these areas are described by the SRPCS as "CTS not likely". Based on the CNDDDB, the closest documented occurrence of the species is approximately 2 miles south of the project study area.
Foothill yellow-legged frog <i>Rana boylei</i>	-- /CSC/--	Partly-shaded shallow streams and riffles with a rock substrate in a variety of habitats. Sandy and rocky or gravelly banks at 6,000 ft. and below in elevation.	Moderate. Potentially suitable habitat is present in multiple creeks in the project study area. Based on the CNDDDB, the closest documented occurrence of the species is approximately 4 miles from the project study area.
Reptiles			
Western pond turtle <i>Actinemys marmorata</i>	--/CSC/--	Perennial ponds, deep slow-moving streams, marshes and lakes are habitat for this species at 6,000 ft. and below in elevation. However, eggs are laid in loose soil on land in oak woodlands, mixed coniferous forests, broadleaf forests and grasslands, usually within 400 ft. of ponds, lakes, slow streams and marshes	Moderate. Suitable habitat is present in ponds and creeks in the project study area, and adjacent areas could be used as nest sites. Based on the CNDDDB, the species is known to occur in multiple creeks in the project study area, including Mark West Creek, Pool Creek and its tributaries, and tributaries to the Russian River.

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Common Name Scientific Name	Fed./State/ Other Status	Habitat	Potential to Occur in the Project Study Area
		with vegetated borders, rocks, or logs. Logs, rocks, cattail mats, and exposed banks are required for basking.	
Birds			
Cooper's hawk <i>Accipiter cooperi</i>	--/WL/--	Mature forests, open woodland, riparian forest. Nests in coast live oak and other forest habitats.	Present. Suitable nesting and foraging habitat is present in the project study area; observed during raptor survey (GANDA 2015b).
Golden eagle <i>Aquila chrysaetos</i>	BCC/WL, CFP/--	Frequents open woodlands and less populated areas.	Present. Suitable nesting and foraging habitat is present in the project study area; observed during raptor survey (GANDA 2015b).
Northern harrier <i>Circus cyaneus</i>	--/CSC/--	Nests on ground in swales and low-lying grasslands	Present. Suitable nesting and foraging habitat is present in the project study area; observed during raptor survey (GANDA 2015b).
Oak titmouse <i>Baeolophus inornatus</i>	BCC/--/--	Nests in tree cavities in oak-woodlands.	Present. Suitable nesting and foraging habitat is present in the project study area; observed during raptor survey (GANDA 2015b).
White-tailed kite <i>Elanus leucurus</i>	--/CFP/--	Generally nests in trees near fields, open groves, grasslands, or marshes.	Present. Suitable nesting and foraging habitat is present in the project study area; observed during raptor survey (GANDA 2015b).
Mammals			
American badger <i>Taxidea taxus</i>	--/CSC/--	Suitable habitat is characterized by herbaceous, shrub, and open stages of most habitats with dry, friable soils.	Moderate. Suitable foraging and denning habitat is present in the grasslands and woodlands throughout the project study area.
Fringed myotis <i>Myotis thysanodes</i>	--/--/ WBWG H	Roosts in mines, caves, trees and buildings.	Moderate. Numerous trees and several structures in the project study area provide potential roosting habitat.
Hoary bat <i>Lasiurus cinereus</i>	--/--/ WBWG M	Forested habitat	Moderate. Numerous trees in the project study area provide potential roosting habitat.
Long-eared myotis <i>Myotis evotis</i>	--/--/ WBWG M	Variety of woodland and forest habitats, but prefers conifers. Roosts in crevices, buildings, snags, and under bark.	Moderate. Numerous trees and several structures in the project study area provide potential roosting habitat.

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Common Name Scientific Name	Fed./State/ Other Status	Habitat	Potential to Occur in the Project Study Area
Pallid bat <i>Antrozous pallidus</i>	--/CSC/ WBWG H	Variety of habitats; prefer open dry lands with rocky areas for roosting. Roosts in anthropogenic structures (buildings and bridges), cliff crevices of rock faces, and hollow trees.	Moderate. Numerous trees and several structures in the project study area provide potential roosting habitat
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	--/CSC/ WBWG H	Variety of woodland and forest habitats, but prefers conifers. Roosts primarily in caves, mines, tunnels, and sometimes in buildings, bridges, or other human-made structures.	Moderate. Caves and mines not known from the study area, but barns and outbuildings in the project study area represent potentially suitable roosting habitat.
Western red bat <i>Lasiurus blossevillii</i>	--/CSC/ WBWG H	Edges of open to moderately dense deciduous foothill woodlands along streams. Roosts in moderately dense foliage.	Moderate. Numerous trees in the project study area provide potential roosting habitat.
Yuma myotis <i>Myotis yumanensis</i>	--/--/ WBWG ML	Woodland and open forest with freshwater sources over which to feed.	Moderate. Numerous trees and several structures in the project study area provide potential roosting habitat.

Notes:

Federal status designations:

- FE = federally endangered
- FT = federally threatened
- BCC = bird of conservation concern

State status designations:

- SE = State endangered
- ST = State threatened
- CSC = California species of concern
- CFP = California fully protected
- WL = Watch List species

Western Bat Working Group status designations:

- WBWG H = high priority
- WBWG M = medium priority
- WBWG ML = medium/low priority

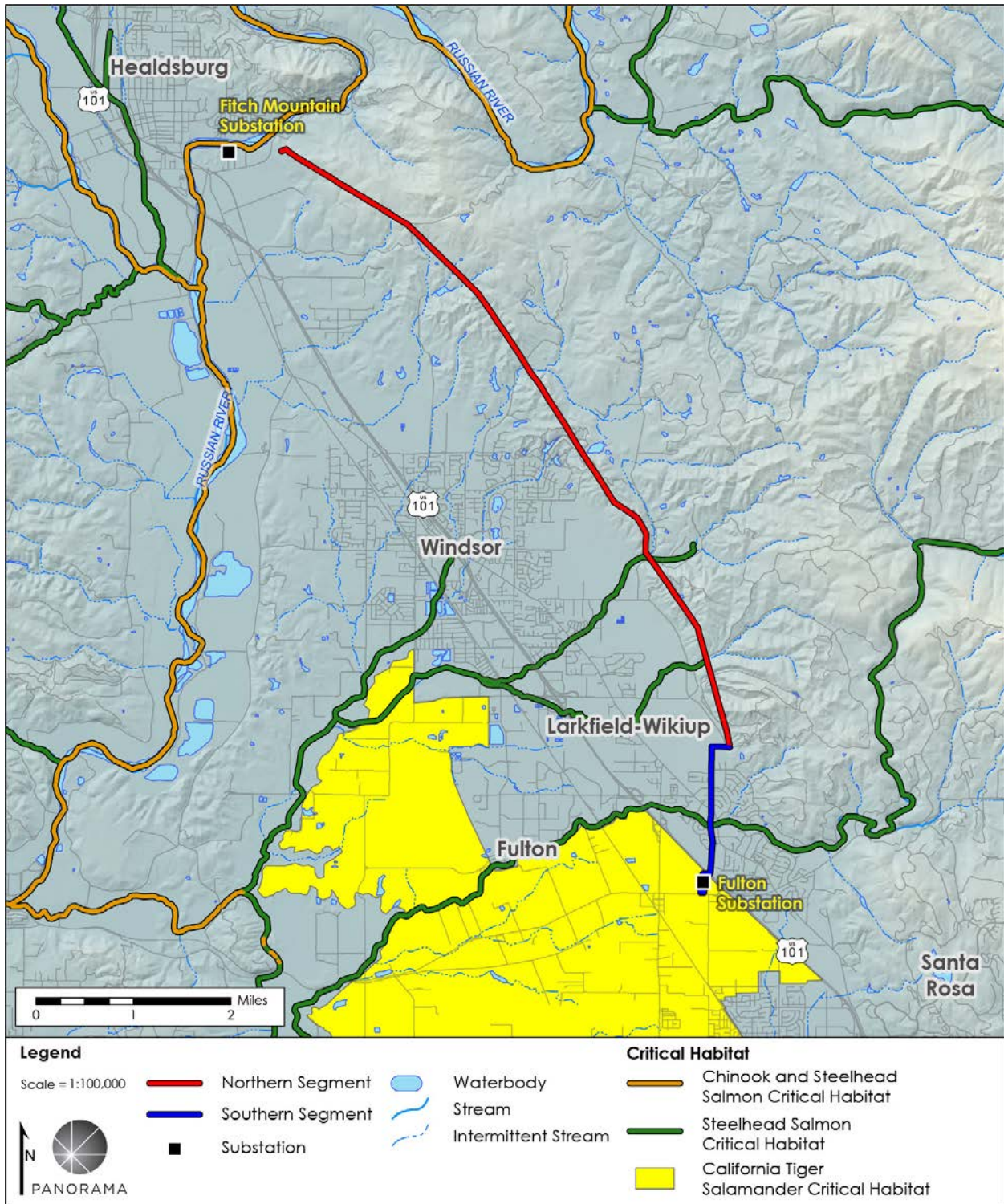
Sources: (GANDA 2012, TRC 2015b, TRC 2016b, TRC 2016c, GANDA 2015a, GANDA 2015b, Swaim Biological, Inc. 2016, USFWS 2011, TRC 2017a)

Critical Habitat

Portions of the proposed project would be located within and would cross critical habitat designated by USFWS, as shown in Figure 3.4-1. Fulton Substation and nearby portions of the project study area are located within critical habitat for CTS, and the project alignment would cross Mark West Creek and Pool Creek, which are designated as critical habitat for Central California Coast steelhead. Designated critical habitat for California Coast chinook salmon occurs immediately north of the project study area in the Russian River.

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Figure 3.4-1 Designated Critical Habitat in the Project Area



Sources: (PG&E 2016-2017, ESRI 2016, USFWS 2015, USGS 2012)

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Wildlife Corridors

Wildlife corridors are landscape features that connect suitable habitat in regions otherwise fragmented by rugged terrain, changes in vegetation, or human development. There are two types of wildlife corridors: local and regional. Local corridors provide animals with access to resources such as food, water, and shelter. Wildlife can use these corridors to travel from riparian to upland habitats and back, for example. Regional corridors allow for wildlife movement between large core areas of habitat that are regionally important. They include major creeks and rivers, ridges, valleys, and large swaths of undeveloped land.

Wildlife corridors are essential to maintain populations of healthy and genetically diverse plant and wildlife species. At a minimum, wildlife corridors promote colonization of habitat by, and genetic variability for, both plant and wildlife species by connecting fragments of habitat that are separated by otherwise unsuitable habitats. Because the isolation of plant and wildlife populations can have harmful effects on local and regional species' populations and may contribute significantly to local species extinctions, wildlife corridors are important to sustain species distributions within these habitat fragments. Wildlife corridors are considered sensitive by local, State, and federal resource and conservation agencies.

The system of creeks and rivers within and near the project study area are considered wildlife corridors for aquatic wildlife species, as well as mammals, amphibians, and reptiles that could move within associated woodland habitat. The creeks are used by fish for spawning, and connect to the Pacific Ocean to support species migration and life-cycle patterns. The woodland habitats along the creeks within the project study area provide cover and habitat for migratory birds, as well as for numerous wildlife species that may move along the creek corridors while dispersing. Wildlife species may also use the oak woodlands and grasslands in the Northern Segment for local and regional movement, as this portion of the project study area is bordered to the east and north by large expanses of undeveloped land.

3.4.4 Impact Analysis

Summary of Impacts

Table 3.4-6 presents a summary of the CEQA significance criteria and impacts on biological resources that would occur during construction, operation, and maintenance of the proposed project.

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Table 3.4-6 Summary of Proposed Project Impacts on Biological Resources

Would the proposed project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Impact Discussion

a) Would the proposed project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?	Significance Determination
	Less than significant with mitigation

Construction – Direct Impacts

Special-Status Plants

No special-status plants were detected during the focused plant surveys conducted in 2011 and 2012. However, the size and density of special-status plant populations fluctuate from year to year. Focused surveys were only conducted for a portion of the project study area in the Northern Segment (survey area identified for the BRTR on Figure D-2 in Appendix D), which occurred 4 to 5 years ago during a period of drought (GANDA 2012). While special-status plants were not detected during the focused surveys, several species have some potential to occur in proposed project work areas or in access routes at the time of construction.

Vehicle access, grading, and vegetation removal could directly impact special-status plants by removing or crushing the plants if they occurred in work areas or access routes at the time of construction. Depending on the extent of disturbance, rarity status, and local abundance and distribution of any special-status plants that may be present, direct impacts on special-status plant species could be significant.

PG&E has proposed APM BIO-1a (worker training), APM BIO-1b (general biological monitoring), APM BIO-1c (marking sensitive resources), and APM BIO-4 (pre-construction plant surveys) to reduce potential impacts on special-status plants. While these measures would reduce the impact, a significant impact on special-status plants could occur because the APMs do not include monitoring during vegetation removal, and do not specify survey requirements or procedures to implement if special-status plants are identified.

MM Biology-1 supersedes APM BIO-1b and APM BIO-1c and MM Biology-2 supersedes APM BIO-4. MM Biology-1 requires biological monitoring by qualified botanists during construction, and marking special-status plants to ensure impacts are completely avoided or minimized, when required. MM Biology-2 requires pre-construction surveys for special-status plants during the appropriate blooming period at project areas within suitable habitat, and to avoid potential impacts on special-status plant populations or individuals to the greatest extent feasible. If special-status plants cannot be avoided, MM Biology-2 requires PG&E to: prepare and implement a Salvage and Replanting Plan, salvage or collect seed from the affected special-status plants, and replant the material following construction. MM Biology-2 also requires annual monitoring and reporting, and implementation of adaptive management procedures until minimum success criteria are met. Direct impacts on special-status plants would be less than significant with implementation of MM Biology-1 and MM Biology-2.

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Special-Status Invertebrates

The California freshwater shrimp has a moderate potential to occur in Pool Creek, Wright Creek, Windsor Creek, Mark West Creek, and other low gradient perennial streams in the project study area. The proposed work areas would not be located within or adjacent to any creek that provides suitable habitat for California freshwater shrimp; therefore, grading and vegetation removal activities associated with work areas and access routes would not affect California freshwater shrimp. Construction access for the proposed project would include low water crossings over several unnamed ephemeral and intermittent drainages. An existing culvert would be replaced at one low water crossing (crossing ID FFX24 – refer to Figure F-1, Map 4 in Appendix F) located in an intermittent (ephemeral) stream (SEW9A). None of these seasonal/intermittent drainages provide suitable habitat for California freshwater shrimp because the California freshwater shrimp is restricted to creeks with year-round flowing water. Construction would not result in direct impacts on California freshwater shrimp or its habitat. No impacts would occur.

Special-Status Fish

The Russian River tule perch, Navarro roach, Hardhead, Central California Coast coho salmon, California Coast chinook salmon, and Central California Coast steelhead have a moderate potential to occur in the creeks and streams in the project alignment. Critical habitat for California Coast chinook salmon and Central California Coast steelhead is present in Mark West Creek, Pool Creek, and an unnamed drainage within the project alignment. The proposed project would not require any grading or vegetation removal within suitable habitat for special-status fish. Low-water crossing of unnamed, ephemeral, and intermittent streams would only occur when the creek or stream is dry and no fish are present. The proposed project would include replacement of a culvert located in an intermittent stream that does not provide suitable habitat for special-status fish and that would be dry at the time of construction; therefore, the culvert replacement would not adversely affect any special-status fish. Construction would not result in direct impacts on special-status fish or critical habitat. No impact would occur.

Special-Status Amphibians

California Red-Legged Frog. Based on the CNDDB, CRLF is not known to occur in the project area and has not been documented within 10 miles of the project study area. The project study area is located at the periphery of the CRLF's expected distribution (Swaim Biological, Inc. 2016). The project study area and the nearby valley areas including Healdsburg, Windsor, and the area northwest of Santa Rosa are mapped by the USGS (2010) and CDFW (2008) as outside of the area currently occupied by the species (Swaim Biological, Inc. 2016). According to the CDFW distribution map, the majority of the Northern Segment is within the western edge of habitat potentially occupied by CRLF.

Swaim Biological (2016) conducted a detailed CRLF habitat assessment, which included visual surveys and larval sampling at 34 potential breeding sites (defined as still or slow-moving water that persists at least through early June). The potential breeding sites were identified on maps and aerial photographs within 1 mile of the project study area. The survey report notes that four of the potential breeding sites on private land could not be accessed and there may be

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other ponds or wetlands within 1 mile of the project study area that were not identified on maps or aerial photographs. Where field surveys were conducted by Swaim Biological, no life stages of CRLF were observed; the habitat quality at the sites was determined to be low or very low for CRLF breeding, and the majority of the sites supported one or more aquatic predators that reduced its suitability for CRLF breeding (2016).

The results of the 2016 habitat assessment suggest a very low to low potential for CRLF to occur in the project study area; however, the results do not indicate that CRLF are absent because regulatory procedures require that protocol-level surveys be conducted following a standard methodology to demonstrate absence of the species (USFWS 2005b). Swaim Biological also suggests there may be potentially suitable breeding habitat in the study area that was not addressed in their assessment (2016). The habitat assessment did not address all types of aquatic features, such as creeks, that could be used by non-breeding CRLF. CRLF, are therefore, assumed to have some (albeit very limited) potential to occur in the project study area because protocol presence-absence surveys were not conducted, and the habitat assessment did not include all potentially suitable habitat areas within 1 mile of the proposed project.

During the dry season, CRLF are expected to be found closer to aquatic habitats, including within perennial water, soil cracks, small mammal burrows, or other damp areas. During the wet season, CRLF can disperse across upland habitats and have a greater potential to occur in upland habitats further from aquatic habitat. No construction activities would be conducted within perennial creeks or ponds, but multiple seasonal features could be impacted during construction that may provide suitable aquatic habitat for CRLF. The proposed project would involve replacing a culvert in one seasonal watercourse (SEW9A), as well as the temporary installation of multiple watercourse crossings at seasonal drainages. The culvert replacement and watercourse crossings would occur during the dry season when no water is present; however, there is a low potential that CRLF could be present in the area in burrows, soil cracks, under leaf cover, or other damp locations. Several work areas and access routes would also be located in potentially suitable dispersal habitat within 500 feet of potentially suitable aquatic habitat. For the reasons stated above, there is a low potential that construction activities, including culvert replacement at SEW9A, crossing seasonal watercourses, and ground disturbance within 500 feet of aquatic features, could result in injury or mortality of individual CRLF. The likelihood of such an event is low, however, injuring or killing a CRLF would be a significant impact.

PG&E has proposed APM BIO-1a (environmental awareness training), APM BIO-1d (fencing around work areas in CRLF habitat), APM BIO-1g (parking restrictions), APM BIO-1h (access and work area restrictions), APM BIO-1k (cover excavations), APM BIO-1m (inspection of excavations during the wet season), and APM BIO-6 (pre-construction surveys for CRLF) to reduce impacts on CRLF. PG&E has also proposed APM BIO-3 (wetland and watercourse protection measures) and APM WQ-3 (wetland and drainage avoidance) to reduce impacts on wetlands and watercourses where seasonal aquatic habitat for CRLF may be present. APM BIO-1d, APM BIO-1m, and APM BIO-6 do not include procedures to identify suitable CRLF habitat, monitor work in CRLF habitat, or install CRLF exclusion fencing. APM BIO-3 and APM

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WQ-3 do not identify a process for ensuring watercourses that may provide seasonal aquatic habitat are avoided to the greatest extent possible, or for minimizing any impacts that cannot be avoided. The impacts on CRLF would remain potentially significant after application of the APMs.

MM Biology-3 supersedes APM BIO-1d, APM BIO-1m, and APM BIO-6. MM Biology-3 requires PG&E to survey for and map potentially suitable aquatic and upland habitat for CRLF located within 500 feet of project disturbance areas, and to consult with USFWS to obtain any necessary take permits prior to work activities in potentially suitable habitat, and prior to relocating any CRLF. MM Biology-3 also requires PG&E to implement specific procedures that would avoid and minimize potential impacts on CRLF such as: restricting excavation and grading within 500 feet of suitable aquatic habitat during the wet season; installing exclusion fencing around work areas; and having a biologist onsite during initial habitat disturbance. MM Hydrology-4 supersedes APM BIO-3 and APM WQ-3, and requires PG&E to prepare a Seasonal Watercourse Avoidance and Crossing Plan that defines specific methods for avoiding and minimizing impacts to watercourses at low water crossings, to the extent feasible. MM Biology-1 describes the minimum qualifications for biologists that would conduct habitat surveying and monitoring procedures for CRLF. Direct impacts on CRLF from injury or mortality would be less than significant with implementation of MM Biology-1, MM Biology-3, and Hydrology-4.

Foothill Yellow-Legged Frog. FYLF have a moderate potential to occur within the project study area where shallow streams and creeks are present (i.e., seasonal or perennial streams with cobble or rock substrate and standing water or visible moisture in the immediate vicinity). The proposed project would involve replacing a culvert in one seasonal watercourse (SEW9A) that may provide suitable aquatic habitat for FYLF. SEW9A is an intermittent stream that is between a vineyard and active agricultural land. The channel is approximately 3 to 4 feet wide and 2 feet deep, and has a gravel substrate with cobble stones. The project would also require multiple low water crossings at seasonal drainages that may provide suitable aquatic habitat for FYLF. The culvert replacement and low water crossings would occur during the dry season and when no standing water is present. While presence of FYLF is generally associated with flowing water, FYLF is known to occur in the region and there is some potential that the species could be present in the dry season given that SEW9A, and likely some of the seasonal streams at crossing locations, contain suitable substrate (i.e., gravel and cobble). If suitable habitat with sufficient moisture is present at the time of construction, FYLF could be under leaf cover or other damp places within and immediately adjacent to the creek bed or seasonal watercourse channel. Construction activities within and immediately adjacent to low water crossings that contain FYLF could result in injury or mortality of FYLF, which would be a significant impact.

PG&E has proposed APM BIO-1a (environmental awareness training), APM BIO-1b (general biological monitoring), APM BIO-1c (general resource marking), APM BIO-1g (parking restrictions), APM BIO-1h (access and work area restrictions), APM BIO-1k (cover excavations), and APM BIO-1m (inspection of excavations during the wet season), to reduce impacts on FYLF. These APMs do not specify habitat surveying and monitoring procedures that would be sufficient to avoid FYLF. PG&E has also proposed APM BIO-3 (wetland and watercourse

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protection measures), and APM WQ-3 (wetland and drainage avoidance) to reduce impacts on wetlands and watercourses where suitable habitat for FYLF may be present. APM BIO-3 and APM WQ-3 do not identify a process for ensuring watercourses that may provide suitable habitat are avoided to the greatest extent possible, and for minimizing any impacts that cannot be avoided. The impact on FYLF would therefore remain significant after implementation of the APMs.

MM Biology-4 supersedes APM BIO-1b, APM BIO-1c, and APM BIO-1m. MM Biology-4 requires PG&E to survey and map potentially suitable aquatic habitat for FYLF within 10 feet of project construction areas and, if found, to implement procedures that would avoid potential impacts on FYLF. The procedures include conducting daily sweeps of construction areas within 10 feet of aquatic habitat, providing an opportunity for any FYLF found to leave work areas on its own accord, and relocating any FYLF when necessary, following CDFW approval. MM Hydrology-4 supersedes APM BIO-3 and APM WQ-3 and requires PG&E to prepare a Seasonal Watercourse Avoidance and Crossing Plan that defines specific methods for avoiding and minimizing impacts to watercourses at low water crossings, to the extent feasible. MM Biology-1 describes the minimum qualifications for biologists that would conduct habitat surveying and monitoring procedures for FYLF. Direct impacts on FYLF from injury or mortality would be less than significant with implementation of MM Biology-1, MM Biology-4, and MM Hydrology-4.

California Tiger Salamander. Portions of the project study area in the Southern Segment are within (1) the geographic range of the Sonoma County population of CTS, (2) areas identified by the SRPCS as having potential for presence of CTS, and (3) designated CTS critical habitat. These portions of the project study area, however, are in areas that are developed (i.e., paved roads, used for agriculture production and disked, bordered by US 101) and/or are isolated from documented CTS occurrences. Portions of the project study area in the Northern Segment are within or bordering the SRPCS planning area, but these areas are identified in the SRPCS as "CTS not likely." The closest CNDDDB documented occurrence for the species is located approximately 2 miles south of the project study area and beyond the dispersal range (1.3 miles) for CTS. It is unlikely that any CTS would occur within proposed project work areas or access routes given the site characteristics, lack of observations in the area, and because the proposed project is beyond the dispersal range of the nearest recorded occurrence. However, in the unlikely event that a CTS were to occur in the construction area and was injured or killed, impacts on CTS would be significant.

PG&E has proposed APM BIO-1a (environmental awareness training), APM BIO-1g (parking restrictions), APM BIO-1h (access and work area restrictions), APM BIO-1k (cover excavations), and APM BIO-7 (conduct pre-construction surveys for CTS and CTS exclusion fencing in critical habitat), which would reduce impacts on CTS. Direct impacts on CTS from injury or mortality would be less than significant with implementation of these APMs.

Special-Status Reptiles

Western Pond Turtle. Western pond turtle has a moderate potential to occur within ponds and creeks in the project study area, and up to 400 feet from such areas during the nesting season.

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The proposed project would involve replacing a culvert in one seasonal watercourse (SEW9A) that may provide suitable habitat for western pond turtle. The project would also require multiple watercourse crossings at seasonal drainages that may provide suitable habitat during wet periods. Water course crossings and culvert replacement work would only occur when the drainages are dry, greatly reducing the potential for pond turtles to be present. However, should standing water be present nearby, it is possible that a pond turtle could move onto the site and be harmed. Several work areas and access routes would be located within 400 feet of potentially suitable habitat where there is an increased likelihood of encountering western pond turtle during periods of movement (when seasonal ponds and creeks are dry and the turtles need to relocate), and during the turtle nesting season (when turtles move onto upland habitat to lay eggs). Construction activities including grading, vegetation removal, and vehicle travel on unpaved surfaces within 400 feet of potentially suitable habitat for western pond turtle could injure or kill western pond turtle, which would be a significant impact.

PG&E has proposed APM BIO-1a (environmental awareness training), APM BIO-1g (parking restrictions), APM BIO-1h (access and work area restrictions), APM BIO-1j (pet and firearm restrictions), APM BIO-1k (cover excavations), and APM BIO-9 (pre-construction surveys, daily sweeps for western pond turtle, and relocating turtles if found in construction areas) to reduce impacts on western pond turtle. PG&E has also proposed APM BIO-3 (wetland and watercourse protection measures), and APM WQ-3 (wetland and drainage avoidance) to reduce impacts on wetlands and watercourses that may provide suitable habitat for western pond turtle. APM BIO-3 and APM WQ-3 do not identify a process for ensuring watercourses that may provide suitable habitat are avoided to the greatest extent possible, and for minimizing any impacts that cannot be avoided.

MM Hydrology-4 supersedes APM BIO-3 and APM WQ-3 and requires PG&E to prepare a Seasonal Watercourse Avoidance and Crossing Plan that defines specific methods for avoiding and minimizing impacts to watercourses at low water crossings, to the extent feasible. Direct impacts on western pond turtle from injury or mortality would be less than significant with implementation of MM Hydrology-4.

Special-Status and Protected Migratory Birds

Special-status bird species including Cooper's hawk, golden eagle, northern harrier, white-tailed kite, and oak titmouse were observed during focused raptor surveys conducted for the proposed project (GANDA 2012, GANDA 2015b).

The Migratory Bird Treaty Act (MBTA) (16 United States Code § 703 *et seq.*) provides protection for all migratory birds listed in 50 CFR § 10.13. Pursuant to the MBTA, it is unlawful to take, pursue, capture, kill, hunt, possess, sell, or ship birds on the MBTA list, including their parts, eggs, and nests, unless otherwise expressed in the regulations, or if an appropriate permit is obtained from USFWS. California Fish and Game Code (Section 3503 and 3503.5, and Section 3513) also makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise expressed in the regulations, or if an appropriate permit is obtained from CDFW.

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Migratory birds can be found in wide variety of natural and developed environments, and their habitat and nesting characteristics vary greatly by species. Migratory birds and their nests could be found at any location in the project study area; however, the potential for nesting activity is greater in vegetated areas. Grassland, woodland, and forests in the project study area provide suitable foraging and nesting habitat for special-status birds listed in Table 3.4-5 and protected migratory birds.

The proposed project would involve vegetation removal and ground-disturbing activities in work areas and access routes located in grassland, woodland, and forests where there is a high potential for encountering nesting birds (special-status and/or protected migratory birds) during the nesting season (generally February 1 through September 15). Tree and vegetation removal or vegetation trimming could destroy nests of special-status or migratory birds that nest in trees and bushes. Grading and other earth disturbing activities could destroy nests of special-status or migratory birds that nest on the ground (e.g., northern harrier). Destroying an active special-status or protected migratory bird nest would be a significant impact.

PG&E has proposed APM BIO-1a (worker environmental awareness training), APM BIO-1g (parking restrictions), APM BIO-1h (access and work area restrictions), APM BIO-1j (pet and firearm restrictions), and APM BIO-2 (nest surveys and buffers) to reduce impacts on special-status and migratory bird species. The APMs do not specify nest survey and avoidance procedures necessary to ensure that the project would not result in destruction of a nest. The impact would, therefore, remain significant.

MM Biology-5 supersedes APM BIO-2, and requires specific procedures that would be implemented during the bird nesting season, such as the timing, frequency, and coverage for nesting bird surveys and monitoring; avoiding active nest destruction or disturbance by applying standard work-restriction buffers; documenting and reporting survey results and monitoring observations; and coordinating with the CPUC regarding the appropriate distance for work-restriction buffers based on the recommendations of qualified biologists. MM Biology-1 describes the minimum qualifications for avian biologists who would conduct surveys, and monitoring procedures for nesting birds. Direct impacts on special-status and migratory birds would be less than significant with implementation of MM Biology-1 and MM Biology-5.

Special-Status Mammals

American Badger. American badger has a moderate potential to occur in and adjacent to project work areas and access routes located in woodland, forest, and grassland habitats. Construction activities could result in disturbing or collapsing an active den or otherwise harming individual badgers. Injuring or killing an American badger, or destroying an active American badger den, would be a significant impact.

PG&E has proposed APM BIO-1a (environmental awareness training), APM BIO-1g (parking restrictions), APM BIO-1h (access and work area restrictions), APM BIO-1j (pet and firearm restrictions), and APM BIO-8 (pre-construction surveys for American badger and implementation of work restriction buffers around active dens) to address impacts on American

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badger. The APMs would avoid direct impacts on American badger, and the impact would be less than significant.

Special-Status Bats. Trees within and adjacent to proposed project work areas and access routes provide potentially suitable roosting habitat for special-status bats, including western red bat, hoary bat, long-eared myotis, fringed myotis, and Yuma myotis. Structures and outbuildings adjacent to work areas may also provide suitable roosting habitat for Townsend's big-eared bat, long-eared myotis, fringed myotis, and Yuma myotis. The proposed project would involve vegetation clearing, tree removal, and earthwork that could destroy or disturb special-status maternity or hibernation bat roosts, and result in the injury or mortality of a special-status bat, which would be a significant impact.

PG&E has proposed APM BIO-1a (environmental awareness training), APM BIO-1g (parking restrictions), APM BIO-1h (access and work area restrictions), and APM BIO-5 (pre-construction surveys for special-status bats) to reduce impacts on special-status bats. APM BIO-5 only requires an assessment of potential bat roosts within the vicinity of pull sites and landing zones, and does not require an assessment of bat roosts within trees proposed for removal. A potentially significant impact on bats would remain even after implementation of the APMs.

MM Biology-6 supersedes APM BIO-5, and requires a qualified biologist to conduct a pre-construction assessment for suitable bat roosting habitat that may be impacted (i.e., within approximately 50 feet of all project work areas and access routes). Where a suitable bat roost is identified, MM Biology-6 requires PG&E to mark and avoid the roost, to the extent practicable. If suitable bat roosts cannot be avoided, specific procedures would be required for removing roosts and protecting maternity roosts for special-status bats. Direct impacts on special-status bats from destruction of bat roosts would be less than significant with implementation of MM Biology-6.

Construction – Indirect Impacts

Potential indirect impacts on special-status plant and wildlife species during construction of the proposed project would include the following, which are addressed below:

- Habitat loss or fragmentation
- Reduction in habitat quality from invasive weed introduction or proliferation
- Noise impacts on noise-sensitive species
- Dust, sedimentation, and erosion impacts on special-status species and associated loss of suitable habitat
- Hazardous material spills and impacts on special-status wildlife

Habitat Disturbance

Construction activities for the proposed project would temporarily impact vegetation communities that provide potentially suitable habitat for special-status plants and wildlife where vegetation clearing and grading would occur at project work areas and access routes. Estimated impacts on natural vegetation communities, where suitable habitat for special-status

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species may be present, are summarized in Table 3.4-7. Permanent habitat loss for these species is discussed under operation and maintenance, below.

Table 3.4-7 Estimated Impacts on Natural Vegetation Communities

Vegetation Communities/ Land Cover Types ^{a, b, c}	Southern Segment (acres)		Northern Segment (acres)		Total (acres)	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Riparian Woodland	0.2	-	-	-	0.2	-
Oak Woodland/ Forest	< 0.1	-	29.2 – 30.9	0.002	29.2 – 30.9	0.002
California Bay Forest	-	-	0.1	-	0.1	-
Grassland	3.5 – 9.5	-	29.9 – 32.4	< 0.001	33.4 – 41.9	< 0.001
Eucalyptus	-	-	< 0.1	-	< 0.1	-
TOTAL	3.8 – 9.8	-	59.2 – 63.4	0.002	62.9 – 73.2	0.002

Notes:

- ^a Temporary impacts would occur at project work areas and overland access routes. Land impacts at existing paved and unpaved access routes are not included.
- ^b Where impacts are expressed in range, the low value represents impacts at anticipated work areas and the high value represents the total land present that may be impacted if work areas were repositioned. Actual impacts are expected to be at or below the lower value in the range of impacts.
- ^c Permanent impacts would occur where a greater number of new poles would be located within a land designation or where larger TSPs would be installed.

Source: (PG&E 2016-2017)

The proposed project would temporarily disturb approximately 62.9 to 73.2 acres of natural vegetation communities that provide potentially suitable habitat for special-status plants and wildlife. The areas of temporary impacts could become permanent impact areas if not properly restored at the completion of construction. The loss of up to 73.2 acres of suitable habitat could have an adverse effect on special-status species that may occur in the area (refer to Table 3.4-4 and Table 3.4-5) because much of the valley has been developed, and there are limited natural vegetation communities south of the proposed project. The impact would be significant.

PG&E proposes to implement APM BIO-11 to restore temporarily disturbed habitats to pre-project conditions; however, the APM lacks sufficient details and success criteria that would be necessary to ensure disturbed areas are adequately restored. Therefore, a significant impact could remain.

MM Biology-7 would supersede APM BIO-11, and requires PG&E to prepare and implement a Revegetation, Restoration, and Monitoring Plan. The plan would define specific procedures and performance standards to ensure temporarily disturbed habitats are adequately restored following construction, including documenting the extent of vegetation communities in project

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areas which may provide suitable habitat for special-status plants and wildlife, as well as documenting where disturbance occurs and reporting the results of restoration monitoring following construction. MM Biology-1 describes the minimum qualifications for biologists or botanists that would conduct monitoring for applicable vegetation resources. Habitat in the area would be temporarily reduced during the construction period (approximately 18 months) until the disturbed areas were fully restored per MM Biology-7. A temporary reduction in habitat where work areas and access routes are located would not be a significant impact because these areas are well dispersed and there is sufficient habitat in the immediate vicinity to support species until all disturbed areas are restored. The temporary impact on suitable habitat for special-status species would be less than significant with implementation of MM Biology-1 and MM Biology-7.

Invasive Weeds

Special-status plant and wildlife species may be impacted by the introduction and/or spread of invasive non-native plant species from construction activities. Construction equipment, vehicles, and erosion control materials could transport weed seed to the project site. Invasive weeds may flourish following ground disturbance in project areas before native species have time to regrow on exposed soils. Invasive species can out-compete special-status plant species and result in future loss of the species' range. Invasive species can also result in the loss of suitable habitat for special-status wildlife that depend on native plants. The potential impact on special-status species from degradation or loss of suitable habitat as a result of invasive non-native plant species introduction and proliferation would be significant.

MM Biology-8 requires invasive weed control methods, including ensuring equipment is clean of caked-on mud and plant material prior to entering unpaved areas, and ensuring erosion and sediment control materials are weed-free. The impact on special-status species populations from introduction of invasive weeds would be less than significant with mitigation.

Noise

Special-Status and Protected Migratory Birds

Construction activities would produce noise and vibration from the use of heavy construction equipment (e.g., trucks, drill rigs, excavators) and helicopters. Construction noise and vibration could disturb nesting behavior, where active nests occur, depending on the type of construction activity, site-specific conditions, and species sensitivity to noise and vibration. Typical construction activities (i.e., most ground-based equipment) could impact nesting behavior of the most sensitive raptor species known to occur in the area (e.g., bald eagle and Swainson's hawk) for up to approximately 0.5 mile. High-disturbance construction activities, such as helicopter operations, could impact nesting behavior of these species for up to approximately 1 mile. Conversely, nesting behavior of some passerine species may tolerate construction activities within 50 feet or less. Noise and vibration from construction equipment and helicopters could disturb nesting birds and result in the failure or abandonment of an active special-status or migratory bird nest. Causing nest failure or abandonment could result in the mortality of egg embryos and the violation of state and federal laws governing the protection of birds and their nests, which would be a significant impact.

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MM Biology-5 specifies establishment and implementation of no-disturbance buffers and monitoring requirements for nesting birds during the nesting season. The no-disturbance buffers are based on the anticipated sensitivity or tolerance for construction noise and vibration of each species that could occur in the area. High-disturbance activities, such as helicopter activities, would require larger buffers. It may be necessary to adjust the no-disturbance buffer based on site-specific conditions and observations made by a qualified avian biologist as required by MM Biology-5. Through implementation of appropriate monitoring protocols and no-disturbance buffers, the impact of construction noise on special-status and migratory birds would be less than significant.

Special-Status Mammals

Construction noise and vibration could also disrupt special-status mammal (i.e., American badger and special-status bat) breeding behavior if work occurred in proximity to an active American badger breeding den, or special-status bat maternity roost. The disruption of breeding activities would be a significant impact on special-status mammals. PG&E has proposed APM BIO-8, which requires a no-disturbance buffer of 250 feet from active American badger dens during the breeding season. With implementation of the no-disturbance buffer, the construction noise would not affect American badger breeding activity. The impact on American badger would be less than significant with implementation of APM BIO-8. PG&E has not proposed any APMs to reduce noise levels and avoid impacts to bat maternity roosts. MM Biology-6 requires a qualified bat biologist to determine if work restriction buffers are necessary around active or potentially active bat maternity roosts that could be impacted by construction noise. The impact on bat maternity roosts would be less than significant with mitigation.

Dust, Erosion, and Sedimentation

Dust, erosion, and sedimentation produced during construction could substantially damage the viability of suitable habitat for a nearby special-status plant population or special-status wildlife species. Dust can adversely affect photosynthesis, resulting in reduced plant vitality. Erosion can expose plant roots or remove plants, resulting in plant damage or mortality. Erosion can also result in impacts on suitable habitat for special-status wildlife species and affect water quality. Sedimentation can affect water quality and aquatic habitat for special-status species. PG&E has proposed APM AIR-1 which requires the control of fugitive dust. Because the proposed project would disturb greater than 1 acre, PG&E would be required to prepare and implement a SWPPP and comply with requirements of the State of California Construction General Permit. Implementation of all sediment and erosion control measures contained in the project-specific SWPPP, and implementation of the dust-control measures in APM AIR-1 would avoid significant dust, erosion, and sedimentation impacts on special-status species. The impact would be less than significant.

Hazardous Materials

Construction vehicles and heavy equipment for the proposed project would require the use of fuels, hydraulic fluids, oil, grease, and other hazardous materials. Hazardous fluids have the potential to leak from vehicles and equipment during operation, refueling, overnight storage, or

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maintenance. Hazardous materials could also accidentally spill from containment vessels (i.e., tanks, barrels, or boxes) if they were improperly transported or stored. If hazardous material leaks or spills were not properly contained and cleaned up, the hazardous materials could be transported to nearby waterways where they could have a significant impact on special-status species and sensitive habitats.

PG&E has proposed APM BIO-1i and APM WQ-4 to address equipment maintenance and refueling; however, the APMs do not include specific details on hazardous materials containment and cleanup in the case of a spill. Therefore, a significant impact on special-status species from a hazardous material spill could still occur after implementation of the APMs. MM Hazards-1 supersedes APM BIO-1i and APM WQ-4, and requires PG&E to develop and implement specific hazardous material procedures, including procedures for vehicle and equipment maintenance, refueling, hazardous material handling and storage, and emergency spill response to avoid contamination of downstream habitats. The impact on special-status species from hazardous materials would be less than significant with mitigation.

Waste and Litter

Waste and litter would be generated during construction from removal of existing facilities, packing materials for new facilities, and the workforce (i.e., food waste, food containers, and disposable water bottles). If waste and litter were not properly collected and disposed of, it could be dispersed in natural environments where it may trap or be consumed by wildlife. PG&E has proposed APM BIO-1f to ensure waste is collected in covered receptacles to prevent it from blowing away, and food waste is collected in a securely covered receptacle and removed from the site on a weekly basis to avoid attracting animals. The impact from waste and litter would be less than significant.

Operation and Maintenance

New poles that would replace existing poles would be positioned within approximately 12 to 35 feet of the existing locations. New LDSPs would occupy a similar area as existing poles (approximately 1.4 square feet). New TSP foundations would occupy a larger area than existing poles (approximately 20 to 25 square feet). Installing new poles would result in approximately 0.002 acre of permanent habitat loss for special-status plant and wildlife species, as listed in Table 3.4-7. A permanent loss of 0.002 acre of habitat spread out across the project alignment would not substantially affect special-status species. The impact from permanent habitat loss would be less than significant.

All power poles and power lines pose a risk to special-status and protected migratory birds. Birds can be injured or killed through electrocution while perching on power poles or by striking suspended lines during flight. The proposed project could result in a significant impact on special-status and migratory birds from electrocution if the design of new poles increased the potential for electrocution compared to existing poles. MM Biology-5 requires PG&E to construct the project following the recommendations published by the Avian Power Line Interaction Committee, *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*.

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With implementation of MM Biology-5, the new poles would not pose a greater risk to birds than the existing power line and power poles. The impact would be less than significant.

Operation and maintenance activities for the proposed project would be approximately the same as the operation and maintenance activities for the existing lines and substation. PG&E would continue to regularly inspect, maintain, and repair conductor, poles, and substation facilities, as well as maintain vegetation clearances from all facilities in the project alignment, in approximately the same manner. PG&E would use the same types of herbicides that are currently used for maintenance of clearance zones around the existing poles. The risk to special-status species from the application of herbicides and inspection activities would not change from existing conditions. Operation and maintenance would not create any new impacts on special-status species. The impact would be less than significant.

Required APMs and MMs (Direct Impacts): APM BIO-1a, APM BIO-1g, APM BIO-1h, APM BIO-1j, APM BIO-1k, APM BIO-7, APM BIO-8, APM BIO-9, MM Biology-1, MM Biology-2, MM Biology-3, MM Biology-4, MM Biology-5, and MM Biology-6; and MM Hydrology-4 (refer to Section 3.9: Hydrology and Water Quality)

Required APMs and MMs (Indirect Impacts): APM BIO-1f, APM BIO-8, MM Biology-5, MM Biology-6, MM Biology-7, and MM Biology-8; and APM HM-3, APM HM-4, MM Hazards-1, and MM Hazards-2 (refer to Section 3.8: Hazards and Hazardous Materials)

b) Would the proposed project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS?	Significance Determination
	Less than significant with mitigation

Construction – Direct Impacts

Sensitive natural plant communities in the project study area include riparian habitat and Oregon oak woodland. Riparian woodland and Oregon oak woodland were mapped in the project study area as summarized in Table 3.4-1. Oregon oak woodland is a sensitive natural plant community identified as State Rank 3 by CDFW (Sawyer 2009).

Construction for the proposed project would temporarily disturb riparian habitat and oak woodland/forest, which may contain Oregon oak woodland. Construction of the proposed project would temporarily impact up to approximately 0.2 acre of riparian woodland, and up to approximately 30.9 acres of oak woodland/forest, which may include areas of Oregon oak woodland (refer to Table 3.4-7). A total of approximately 100 trees may be removed during construction, and approximately half of the trees that may be removed are oak trees. Temporary impacts on riparian woodland and Oregon oak woodland would be significant if the areas were not adequately restored to pre-project conditions following construction, and if riparian or oak trees that were removed or substantially impacted were not replaced.

PG&E has proposed APM BIO-11 to restore temporarily disturbed habitats to pre-project conditions, and APM BIO-10 to replace oak trees or contribute to an in-lieu fee program for oak

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tree removal. The APMs do not (1) specify avoidance measures to minimize impacts on sensitive vegetation communities, (2) address tree replacement for non-oak trees in these communities, or (3) include success criteria necessary to ensure sensitive vegetation communities are fully restored. The impact on sensitive natural plant communities would remain significant after implementation of the APMs.

MM Biology-7 supersedes APM BIO-11, and requires PG&E to prepare and implement a Revegetation, Restoration, and Monitoring Plan to ensure that all sensitive natural plant communities within project work areas and access routes are documented, and the areas of temporary impacts are fully restored to approximately pre-project conditions following construction. MM Biology-9 would minimize impacts on sensitive habitats by requiring PG&E to avoid sensitive natural plant communities to the greatest extent feasible, and mitigate for unavoidable impacts on sensitive vegetation communities at a 1:1 ratio. MM Biology-1 describes the minimum qualifications for biologists or botanists that would conduct monitoring procedures for applicable vegetation resources. The temporary impact on riparian woodland and Oregon oak woodland would be less than significant with implementation of MM Biology-1, MM Biology-7, and MM Biology-9.

Construction – Indirect Impacts

Sudden Oak Death Syndrome

Sudden Oak Death Syndrome (SODS) is a forest disease caused by the plant pathogen *Phytophthora ramorum* that is currently found in 15 California coastal counties including Sonoma County (California Oak Mortality Task Force 2014). The pathogen may be transported to new areas when infected plant material or infected soil is moved, particularly during wet and muddy conditions. The closest documented case of a tree infected with SODS is 1.4 miles west of the proposed project (Garbelotto M. 2017). However, tree species that can carry the pathogen are located within the project study area (e.g., coast live oak, black oak, California bay, big-leaf maple, madrone, California buckeye, and common manzanita). Several of these species are found in Oregon oak woodland, a sensitive vegetation community present in the project area.

Based on current research, only trees within 0.6 mile (1 kilometer) of an infected tree are at a high risk of becoming infected (Garbelotto M. 2017). Construction activities for the proposed project, including vegetation trimming and removal, ground disturbance, and general equipment access, could increase the risk of spreading the pathogen and infecting new areas on or off site because the equipment that would be used to construct the project could have been used in an infected area. The proposed project could result in a significant impact if it infected trees or spread the pathogen to sensitive vegetation communities located in and adjacent to construction work areas and access routes.

MM Biology-10 would minimize the risk of transporting plant material or soil that may be infected with the SODS pathogen, and avoid spreading the pathogen from sites where infected plants are known to occur. MM Biology-10 requires that all equipment, vehicles, and tools are thoroughly cleaned of plant material and soil prior to entering the project area. If any infected vegetation is found near project areas, MM Biology-10 requires that all equipment, vehicles, and

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tools, are thoroughly cleaned of plant material and soil prior to leaving the project area. The potential impact from the spread of SODS would be less than significant with implementation of MM Biology-10.

Invasive Weeds

Proposed project construction could result in the introduction and proliferation of invasive weeds if invasive weeds are carried into the project work areas via construction equipment or vehicles. Invasive weeds could degrade the quality of sensitive vegetation communities in the project vicinity, including riparian habitat and Oregon oak woodland. The degradation of sensitive vegetation communities would be a significant impact.

MM Biology-8 requires invasive weed control methods, including ensuring equipment is free of caked-on mud and plant material prior to entering unpaved areas, and ensuring erosion and sediment control materials are weed-free. The impact on sensitive natural vegetation communities from invasive weeds would be less than significant with mitigation.

Erosion and Sedimentation

Grading and earthwork at proposed project work areas could result in loosened soils, erosion, and sedimentation off-site. Erosion and sedimentation in off-site areas could result in loss or degradation of downstream riparian habitats. Because the proposed project would disturb more than 1 acre, PG&E would be required to prepare a SWPPP and comply with requirements of the State of California Construction General Permit. Implementation of all sediment and erosion control measures contained in the project-specific SWPPP would avoid significant erosion and sedimentation impacts on sensitive vegetation communities. Impacts would be less than significant.

Operation and Maintenance

As explained above under Impact a), new poles that would replace existing poles would be positioned within approximately 12 to 35 feet of the existing locations. New LDSPs would occupy a similar area as existing poles (approximately 1.4 square feet). New TSP foundations would occupy a larger area than existing poles (approximately 20 to 25 square feet). The proposed project would result in the permanent loss of approximately 0.002 acre of oak woodland/forest from pole replacement, which may contain Oregon oak woodland. The proposed project would also result in permanent impacts to Oregon oak woodland if any access routes within the vegetation community were expanded. Permanent loss of Oregon oak woodland would be a significant impact.

MM Biology-7 would require PG&E to prepare and implement a Revegetation, Restoration, and Monitoring Plan to ensure permanent impacts are avoided or such impacts are adequately mitigated. The plan would define specific procedures and performance standards to ensure temporarily disturbed habitats are adequately restored following construction. The plan would include documenting the extent of vegetation communities in project areas, which may include sensitive natural vegetation communities, as well as documenting where disturbance occurs and reporting the results of restoration monitoring following construction. MM Biology-9

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would minimize impacts on sensitive natural plant communities by requiring PG&E to avoid removing or trimming vegetation where such plant communities occur to the greatest extent feasible and mitigate for unavoidable impacts at a 1:1 ratio. MM Biology-1 describes the minimum qualifications for biologists or botanists that would conduct monitoring procedures for applicable vegetation resources. The impact from permanent loss of riparian habitat and Oregon oak woodland would be less than significant with implementation of MM Biology-1, MM Biology-7, and MM Biology-9.

Operation and maintenance activities for the proposed project would be approximately the same as the operation and maintenance activities for the existing lines and substation. PG&E would continue to regularly inspect, maintain, and repair conductor, poles, and substation facilities, as well as maintain vegetation clearances using herbicides at approximately the same frequency and duration as the existing facilities. No sensitive vegetation would be removed during operation and maintenance because maintenance work would be conducted at pole locations and within the existing power line alignment. Operation and maintenance would not create any new impacts on riparian habitat and Oregon oak woodland, or increase the risk of spreading SODS. The impact would be less than significant.

Required APMs and MMs (Direct Impacts): MM Biology-1, MM Biology-7, and MM Biology-9

Required APMs and MMs (Indirect Impacts): MM Biology-8 and MM Biology-10

c) Would the proposed project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<table border="1"> <tr> <th data-bbox="1144 1018 1427 1102">Significance Determination</th> </tr> <tr> <td data-bbox="1144 1102 1427 1201">Less than significant with mitigation</td> </tr> </table>	Significance Determination	Less than significant with mitigation
Significance Determination			
Less than significant with mitigation			

Construction – Direct Impacts

Multiple jurisdictional wetlands were identified in the project study area, as described in Section 3.9: Hydrology and Water Quality and shown on Figure F-1 in Appendix F. Access routes identified for the proposed project would cross two seasonal wetlands. One seasonal wetland, SW13, would be crossed (crossing FFX23) during the dry season or by installing temporary crossing materials (i.e., fiberglass mats or temporary bridge, etc.). Driving through the seasonal wetland could damage wetland vegetation or cause rutting in the wetland, which would be a significant impact. A second wetland, SW1, would be crossed using an existing culvert on an unpaved road (refer to crossing point FFX2). Based on the current locations and conditions of proposed access routes and work areas, wetlands in the project study area would not be impacted by grading activities; however, access routes and crossing methods could change, and there is some potential for grading to occur in a seasonal wetland, if necessary to establish access. Vegetation clearing and grading within jurisdictional wetlands could convert the wetlands to uplands and result in permanent loss of wetland habitats, which would be a significant impact.

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PG&E has proposed APM BIO-3 (wetland and watercourse protection measures) and APM WQ-3 (wetland and drainage avoidance) to reduce impacts on wetlands. The impact on seasonal wetlands would remain significant because the APMs do not identify a process for ensuring wetlands and other watercourses are avoided to the greatest extent possible, or for mitigating unavoidable impacts on seasonal wetlands.

MM Hydrology-4 supersedes APM BIO-3 and APM WQ-3, and requires PG&E to prepare a Seasonal Watercourse Avoidance and Crossing Plan that defines specific methods for avoiding impacts on wetlands and streams, to the extent feasible, as well as specific impact minimization measures (e.g., mats) to avoid damaging vegetation within seasonal wetland features that cannot be fully avoided. MM Biology-11 requires additional wetland protection procedures as well as compensatory mitigation for any impacts through purchasing credits at an approved wetland mitigation bank, or creating/enhancing wetlands at a 2:1 ratio for every acre of impact. The impact on wetland habitat would be less than significant with mitigation.

Construction – Indirect Impacts

Construction of the proposed project could result in indirect impacts on seasonal wetlands from the potential for introducing or spread of invasive weeds, erosion and sedimentation, and hazardous material leaks and spills.

Invasive Weeds

Proposed project construction could introduce invasive weeds to the area via construction equipment or vehicles. Invasive weeds could out-compete native wetland plant communities and result in reduced vitality of the wetland community. The impacts on wetland habitats from introduction and proliferation of invasive weeds is potentially significant. MM Biology-8 requires invasive weed control methods to reduce the potential for introducing new invasive weeds to the area. The impact on wetlands from introduction of invasive weeds would be less than significant with mitigation.

Erosion and Sedimentation

Proposed project grading and excavation could expose soil and result in increased erosion and sedimentation to adjacent wetland areas. The discharge of sediment to wetlands could impact the quality of the wetland or result in loss of wetland habitat. Because the proposed project would disturb more than 1 acre, PG&E would be required to prepare a SWPPP and comply with requirements of the State of California Construction General Permit. Implementation of all sediment and erosion control measures contained in the project-specific SWPPP would avoid significant erosion and sedimentation impacts on wetlands. Impacts on wetlands would be less than significant.

Hazardous Materials

Hazardous fluids have the potential to leak from vehicles and equipment during operation, refueling, overnight storage, or maintenance. Hazardous materials could also accidentally spill from containment vessels (i.e., tanks, barrels, or boxes) if they were improperly transported or

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stored. If hazardous material leaks or spills were not properly contained and cleaned up, the hazardous materials could pollute nearby wetlands and result in a significant impact.

PG&E has proposed APM BIO-1i and APM WQ-4 to address equipment maintenance and refueling; however, the APMs do not include specific details on hazardous materials containment and cleanup in the case of a spill sufficient to avoid significant impacts on wetlands. MM Hazards-1 supersedes APM BIO-1i and APM WQ-4, and requires PG&E to develop and implement specific hazardous material procedures, including procedures for vehicle and equipment maintenance, refueling, hazardous material handling and storage, and emergency spill response to avoid contamination of downstream habitats. The impact on seasonal wetlands from hazardous materials would be less than significant with mitigation.

Operation and Maintenance

No permanent structures would be placed within jurisdictional or potentially jurisdictional wetlands; therefore, no permanent direct impacts on wetlands would occur.

Operation and maintenance activities for the proposed project would be similar to operation and maintenance activities for the existing power line. The use of herbicides to maintain vegetation clearance would not increase because the protocols for using herbicides would be the same as are currently conducted. No impact would occur.

Required APMs and MMs (Direct Impacts): MM Biology-11 and MM Hydrology-4 (refer to Section 3.9: Hydrology and Water Quality)

Required APMs and MMs (Indirect Impacts): MM Biology-8 and MM Hazards-1 (refer to Section 3.8: Hazards and Hazardous Materials)

d) Would the proposed project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Significance Determination
	Less than significant with mitigation

Construction

The system of creeks and rivers within the vicinity of the proposed project are considered wildlife corridors for aquatic wildlife species. Oak woodland and forest habitats provide migratory corridors for upland species, and migratory dispersal corridors for aquatic species such as CRLF and western pond turtle. A significant impact would occur if the proposed project interfered with the movement of the aquatic species that use and inhabit the system of creeks and rivers in the area or resulted in habitat fragmentation that would affect species movement in upland areas.

Migratory Wildlife Corridors

Upland areas in proximity to suitable aquatic habitats can serve as dispersal corridors for amphibian (e.g., CRLF) and reptile (e.g., western pond turtle) species. Upland areas also provide forage and cover necessary for the migration of terrestrial birds and mammals. The oak

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woodland habitats along the project alignment provide migration opportunities for other woodland/forest areas throughout Sonoma County. The proposed project would involve the replacement of an existing power line. Construction activities would be isolated to the individual work areas that are separated by several hundred feet along the project alignment. Construction activities could interfere with migratory patterns of CRLF or western pond turtle if individuals were to enter the work area during species dispersal and become trapped. Interference with species dispersal patterns would be a significant impact on wildlife movement. PG&E proposes APM BIO-9, which requires a qualified biologist to relocate western pond turtles that enter the work area out of harm's way and within the direction of travel. The impact on western pond turtle movements would be less than significant with implementation of APM BIO-9. PG&E proposes APM BIO-1d, which includes installation of amphibian exclusion fencing to reduce impacts on CRLF; however, the APM does not specify actions for CRLF that become trapped within the exclusion fencing, and the impact on CRLF movement could remain significant.

MM Biology-3 supersedes APM BIO-1d and requires installing fencing in a manner that avoids entrapping wildlife, and includes conducting daily sweeps of the fence to relocate any wildlife that is trapped within the fence. The impact on CRLF movement and dispersal would be less than significant with mitigation.

Replacing poles and conductor would not create a new barrier to bird or mammal movement because the new facilities would be located no more than a few feet away from the existing facilities, which would be removed. New facilities would not have a greater effect on bird or animal movement than existing facilities.

Native Wildlife Nursery Sites

The aquatic habitat and forest habitat within the project alignment provide breeding opportunities for aquatic and upland wildlife species. The proposed project would not involve the construction of any poles within aquatic habitat and would not impede the use of a wildlife nursery site, because all work within aquatic habitats (e.g., stream crossings and culvert replacements) would be conducted when the streams are dry and wildlife that breeds in aquatic habitats would not be using the area.

The proposed project includes the use of helicopters for up to a year within forested areas, which provide nesting habitat for birds. Noise produced by the helicopters could impede or discourage bird use of the forest near the project alignment. The impact on birds would be significant due to the large size of the area affected by noise (several miles). PG&E proposes APM BIO-2 to reduce impacts on birds; however, the APM does not specify buffers for helicopters. Helicopter use could impede bird use of habitat in proximity to the proposed project after implementation of APM BIO-2, which would be a significant impact.

MM Biology-5 supersedes APM BIO-2, and specifies appropriate buffers to reduce the impact of construction activities, including helicopters on bird nesting behavior. The impact on nursery sites for migratory birds would be less than significant with mitigation.

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Installation of the proposed power poles and clearances for the power line would require removal of up to 100 trees that could provide suitable habitat for nesting birds and roosting bats. Approximately half of the trees that may be removed are oak trees. The loss of up to 100 trees from the forested corridor along the project alignment would not impede the use of a wildlife nursery site because there are substantial trees available within the surrounding forest that would remain accessible to birds and bats. The impact from the proposed power poles and maintenance of conductor clearance would be less than significant.

Operation and Maintenance

The proposed project would involve the temporary installation of crossing material over approximately 31 seasonal watercourses, including fiberglass mats, steel plates, culverts, and/or temporary bridges. Crossing materials would only be located within seasonal watercourses during the dry season when fish would not use the habitat in the area. The materials would be removed after the construction or crossing is completed in the area. The use of mats and plates to cross watercourses during the dry season would not affect fish migration patterns because the materials would not be used in creeks or streams when water is flowing and fish could be present.

The proposed project would involve replacing a culvert in one seasonal watercourse (SEW9A) that may serve as corridor for migratory fish. A significant impact would occur if a culvert was installed that restricted water flow or fish passage (e.g., resulted in an impassable jump). MM Hydrology-5 requires PG&E to ensure the culvert design meets Sonoma County standards for flood control, and does not decrease the capacity for water to flow, or impede the movement of aquatic wildlife including fish migration. The impact on fish passage from culvert replacement would be less than significant with mitigation.

Required APMs and MMs: APM BIO-9, MM Biology-3, MM Biology-5, and MM Hydrology-5 (refer to Section 3.9: Hydrology and Water Quality)

e) Would the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Significance Determination
	No impact

Construction

Oak woodland is protected under California PRC § 21083.4, which requires counties to determine whether a proposed project may result in the conversion of oak woodlands that would have a significant effect on the environment.

The Sonoma County Zoning Ordinance, Article 67, establishes retention and conservation requirements for valley oaks and valley oak woodlands within the Valley Oak Habitat

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Combining District³, which includes work areas identified in the project alignment (Sonoma County 2017). The ordinance restricts the removal of large valley oaks greater than 20 inches diameter at breast height (dbh), or small valley oaks cumulatively greater than 60 inches dbh, unless appropriate measures are implemented based on the size and location of the trees. The measures include retaining large oaks on protected lands, planting replacement valley oaks, and paying compensation.

Construction of the proposed project would involve vegetation trimming and clearing within work areas and along access routes. As shown in Table 3.4-7, the proposed project would temporarily impact up to approximately 30.9 acres and permanently impact approximately 0.002 acre of oak woodland/forest. Approximately 100 trees of various types and sizes would be removed from the project site. Approximately half of the trees that would be removed are oak trees (e.g., valley oak, coast live oak, or black oak) that may meet the criteria for protected oak trees defined by Sonoma County.

PG&E has proposed APM BIO-10 to ensure any impacts on qualifying large and small valley oaks in the Valley Oak Habitat Combining District or any other protected trees are replaced at a 1:1 ratio, or alternatively, PG&E pays an in-lieu fee to the County valley oak planting program. The impact from conflicts with the tree ordinance would be less than significant with implementation of APM BIO-10.

Operation and Maintenance

Maintenance of the proposed project would require vegetation removal and trimming of trees. The Sonoma County tree ordinance include an exception to the tree ordinance for utility maintenance. No impact would occur from conflicts with the local tree ordinances because the local tree ordinances would not apply to the proposed project.

Required APMs and MMs: APM BIO-10

f) Would the proposed project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Significance Determination
	Less than significant with mitigation

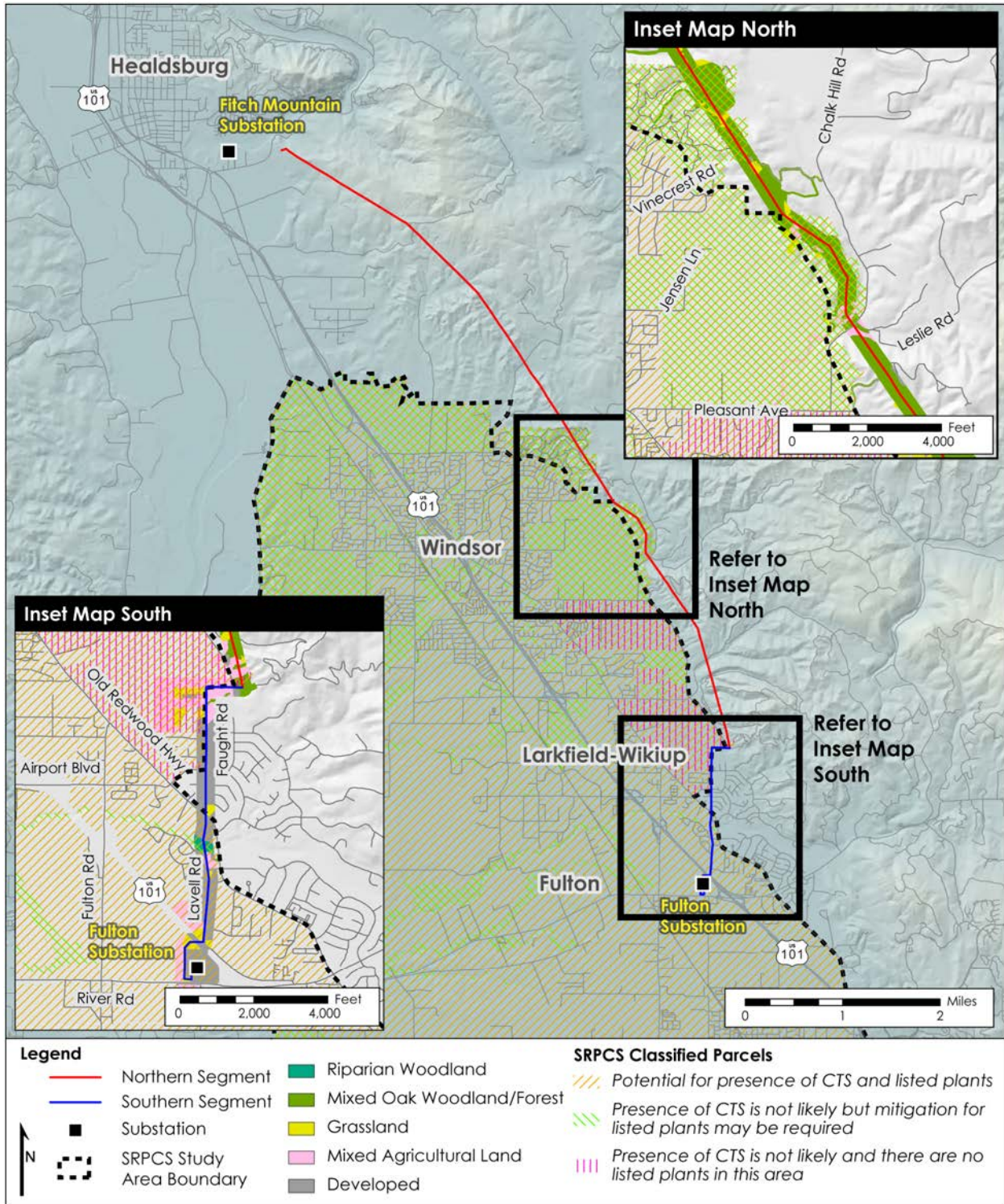
Construction

Portions of the proposed project would be located within the SRPCS area for CTS, Burke’s goldfield, Sonoma sunshine, Sebastopol meadowfoam, and the many-flowered navarretia (listed plants), as shown on Figure 3.4-2. The SRPCS is a habitat conservation plan implemented

³ “The Valley Oak Habitat areas encompasses those basins, flood plains, terraces, and alluvial fans that have Clear Lake-Reyes, Haire-Diablo, Huichica-Wright-Zamora, Pajaro, or Yolo-Cortina-Pleasanton soil associations, as identified by soils data from the United States Department of Agriculture Natural Conservation Service. Within these five soil types only those classes with slopes of 9 percent or less are included (Sonoma County 2017).”

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Figure 3.4-2 Project Areas within the Santa Rosa Plains Conservation Strategy



Sources: (ESRI 2016, PG&E 2016, CDFW 2007, Pacific Biology 2017)

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by USFWS. The purpose of the SRPCS “is to create a long-term conservation program sufficient to mitigate potential adverse effects on listed species due to future development on the Santa Rosa Plain (USFWS 2005a).”

The SRPCS would apply to the proposed project because the project would be located within the SRPCS plan area, and PG&E is required to obtain a Section 404 permit from USACE for impacts on wetlands (see impact d) above). USACE would consult with USFWS under Section 7 of the federal ESA as part of the permit review and approval process. USACE would require PG&E to comply with USFWS’ determinations regarding impacts within the SRPCS and compliance with required mitigation and avoidance and minimization measures.

Temporary Impacts in the SRPCS Plan Area

The proposed project would be located within the following parcel classifications, as shown on Figure 3.4-2, which indicate where USFWS may require compensatory mitigation and minimization measures for the proposed project:

- Potential for presence of CTS and listed plants
- Presence of CTS is not likely but mitigation for listed plants may be required
- Presence of CTS is not likely and there are no listed plants in the area

The proposed project would result in temporary impacts within all three of the parcel classification types where work areas and access routes would be located within the SRPCS plan area. Temporary impacts in these areas are summarized by vegetation community/land cover type in Table 3.4-8.

Table 3.4-8 Temporary Impacts within the SRPCS Classified Parcels

Vegetation Communities/ Land Cover Types ^{a, b}	“Potential for Presence of CTS And Listed Plants” (acres)	“Presence of CTS is Not Likely and There Are No Listed Plants in This Area” (acres)	“Presence of CTS is Not Likely but Mitigation for Listed Plants May Be Required” (acres)	Total (acres)
Oak Woodland/Forest	< 0.1	0.2	5.9	6.1
Grassland	4.7	2.9	0.9	8.4
Mixed Agricultural Land	10.0	19.1	1.9	31.0
Developed	2.0	0.3	0.1	2.3
TOTAL	16.7	22.4	8.7	47.8

Notes:

^a Temporary impacts would occur at work areas.

^b Areas defined in the SRPCS as “Already Developed (No Potential for Impact)” are not included.

^c Portions of the classified parcels are located outside of the SRPCS study area boundary.

Sources: (PG&E 2016, CDFW 2007, Pacific Biology 2017)

SRPCS Compensatory Mitigation

The SRPCS establishes that impacts on areas classified as “potential for presence of CTS and listed plants” be mitigated by providing a monetary contribution (in-lieu fee payment) to a

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species fund overseen by USFWS and/or CDFW at ratios identified in Table 3.4-9 (USFWS 2007); however, the 2007 Programmatic Biological Opinion identifies that mitigation may not apply to hardscapes and that “for each project, the Service and CDFW will determine if hardscape provide benefits to the species and if any mitigation is required.”

The areas classified as “potential for presence of CTS and listed plants” that would be impacted by the proposed project offer little to no habitat for CTS because they are isolated from documented CTS occurrences, and most of the areas are developed or subject to mixed agricultural activities (e.g., vineyards), as shown in Table 3.4-8. The woodland and grassland areas that would be impacted are highly fragmented and disconnected from potentially suitable habitat due the presence of US 101, developed residential areas, paved roads, and/or agricultural activities. Based on a conversation with USFWS, it is unlikely that the proposed project would be required to mitigate for CTS (Olah 2016); however, PG&E would be required to implement any compensatory mitigation required as part of the Section 404 permit process. The proposed project would, therefore, not conflict with the compensatory mitigation requirements of the SRPCS.

Table 3.4-9 Consistency with Potentially Applicable SRPCS Compensatory Mitigation and Minimization Measures

Potentially Applicable SRPCS Requirements	Project Consistency
Compensatory Mitigation (for temporary or permeant impacts with the SRPCS)	
3:1 ratio within 500 feet of known CTS breeding sites	Not Applicable. The nearest record of CTS is 2 miles from the proposed project.
2:1 ratio between 500 and 2,200 feet of known CTS breeding sites, or within 500 feet of an adult occurrence	
1:1 ratio between 2,200 feet and 1.3 miles of known CTS breeding sites	Consistent. PG&E will pay mitigation fees if required per USFWS determination.
0.2:1 ratio greater than 1.3 miles from a known CTS breeding site and greater than 500 feet from an adult occurrence (excludes “No Effect” areas)	
Minimization Measures	
Translocate CTS prior to impacting breeding sites	Not Applicable. The nearest record of CTS is 2 miles from the proposed project.
Install CTS exclusion fencing prior to construction in upland habitat	Consistent. APM BIO-7 requires installation of exclusion fence within suitable upland habitat for CTS.
Biological monitoring, surveys, and inspections	Consistent. APM BIO-7 requires surveys and monitoring for CTS within critical habitat.
Biological training for workers	Consistent. APM BIO-1a requires biological training for workers.
Sediment and erosion control plan	Consistent. The proposed project would disturb more than 1 acre, and PG&E will need to prepare a SWPPP.

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Potentially Applicable SRPCS Requirements	Project Consistency
Limit ground and vegetation disturbance, mark work areas and access roads	Consistent. APM BIO-1g, APM BIO-1h, and MM Biology-1 require limiting vegetation disturbance and marking work areas and access routes in proximity to biological resources.
Trash management	Consistent. APM BIO-1f requires management of trash.
No pets allowed on project sites	Consistent. APM BIO-1j restricts pets from the project site.
Maximum vehicle speed limits of 15 mph	Consistent. APM Air-1 limits vehicle speeds to 15 mph.
Vehicle and equipment maintenance, and hazardous materials management	Consistent. MM Hazards-1 requires vehicle and equipment maintenance and hazardous materials management.
Conduct grading and vegetation clearing between April 15 and October 15, depending on the level of rainfall and/or site conditions	Consistent. APM BIO-7 limits grading and vegetation clearing to the dry season unless approved by USFWS and CDFW.
Restore and revegetation disturbed areas	Consistent. MM Biology-7 requires restoration and revegetation of disturbed areas.

Sources: (USFWS 2007)

The SRPCS also requires in-lieu fee payments if impacts on seasonal wetlands occur in areas classified as “presence of CTS is not likely but mitigation for listed plants may be required.” The proposed project has the potential to impact seasonal wetlands, but none would be located within the SRPCS boundary. In-lieu fee payments are not required for areas classified as “presence of CTS is not likely and there are no listed plants in the area.”

SRPCS Minimization Measures

The SRPCS also includes minimization measures to lessen impacts on CTS. Potentially applicable minimization measures from the SRPCS and 2007 Biological Opinion are identified in Table 3.4-9. Vegetation removal and grading within the SRPCS could conflict with these minimization measures. As identified in Table 3.4-9, implementation of APMs and MMs would avoid conflicts with the SRPCS. Potential conflicts with the SRPCS minimization measures would be less than significant with mitigation.

Operation and Maintenance

Permanent Impacts in the SRPCS Plan Area

The proposed project would result in permanent impacts within SRPCS classified parcels where pole replacement would occur within approximately 12 to 35 feet of existing pole locations. One existing pole, Pole 6, in the Southern Segment would be replaced within land classified in the SRPCS mapping as “potential for presence of CTS and listed plants,” and eight poles (Poles 42 through 45 and 47 through 50) in the Northern Segment would be replaced within land classified both as “potential for presence of CTS and listed plants” and “presence of CTS is not likely but mitigation for listed plants may be required.” All but one of these poles in the Northern Segment would be replaced with an LDSP that would occupy a similar area as existing poles (approximately 1.4 square feet). The remaining pole (Pole 42) would be replaced

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with a TSP that would occupy a larger area than the existing pole (approximately 20 to 25 square feet). Following pole replacement, new poles would occupy approximately 20 to 25 square feet more ground surface in the plan area, due to the larger TSP foundation at one pole.

The proposed project would also result in permanent impacts within SRPCS-classified parcels if it was necessary to expand existing unpaved access routes that are located in the plan area. Access route expansion would only occur if necessary on existing unpaved access routes identified by PG&E. There are approximately 2 miles or less of existing unpaved access routes within the plan area where such expansion could potentially occur. These access routes are located within all three mapping categories identified in Table 3.4-8.

USFWS and CDFW may consider impacts from pole replacement and road expansion to be permanent impacts that require compensatory mitigation. As described for temporary impacts, PG&E would be required to implement any compensatory mitigation required as part of the Section 404 permit process; therefore, the proposed project would not conflict with the compensatory mitigation requirements of the SRPCS.

Pole replacement, access route grading, and access route expansion would not occur within seasonal wetlands located within the SRPCS plan area. An existing culvert would be replaced within seasonal watercourse SEW 9A (at crossing FFX24 shown on Figure F-1 in Appendix F) located within the SRPCS plan area; however, the feature is not a seasonal wetland as defined in the SRPCS. No impacts would occur from impacts on seasonal wetlands that provide habitat for listed plants in the SRPCS.

Long-term Project Activities

Proposed project operation and maintenance activities would be approximately the same as the operation and maintenance activities for the existing lines and substation. PG&E would continue to regularly inspect, maintain, and repair conductor, poles, and substation facilities, as well as maintain vegetation clearances from all facilities in the project alignment. The proposed project would not create any new impacts from conflicts with the SRPCS. No impact would occur from operation and maintenance activities.

Operation and maintenance activities would not affect seasonal wetlands within the SRPCS; therefore, no conflicts would occur from operation and maintenance activities.

Required APMs and MMs: APM BIO-1a, APM BIO-1f, APM BIO-1g, APM BIO-1h, APM BIO-1j, APM BIO-7, MM Biology-1, MM Biology-7; APM AIR-1 (refer to Section 3.3: Air Quality); MM Hazards-1 (refer to Section 3.8: Hazards and Hazardous Materials)

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3.4.5 Required Applicant Proposed Measures and Mitigation Measures

APM BIO-1a: Environmental Awareness Training

PG&E will prepare and implement a Worker Environmental Awareness Program (WEAP) that includes conducting training for all construction and on-site personnel prior to working on the project site. Training will include a discussion of the avoidance and minimization measures that are being implemented to protect biological resources (e.g., APM and MM requirements), as well as the terms and conditions of any Biological Opinion or other permits that apply to the project. Training will include information on the federal and state Endangered Species Acts and the consequences of noncompliance with these acts. Under this program, workers shall be informed about the presence, life history, and habitat requirements of all listed and special-status species with a potential to be affected within the project area. Training will also include information on state and federal laws protecting nesting birds, wetlands, and other water resources, as applicable and appropriate to the project.

A copy of the training materials shall be provided to CPUC for review and approval no less than 30 days before construction. Training logs and sign-in sheets shall be provided to CPUC monthly.

Applicable Locations: N/A

Performance Standards and Timing:

- **Before Construction:** A copy of the training materials is provided to the CPUC at least 30 days before construction
- **During Construction:** (1) All project personnel are trained prior to working on the site, and (2) The CPUC is provided with training logs and sign-in sheets monthly
- **After Construction:** N/A

APM BIO-1f: Litter and Trash Management

All food scraps, wrappers, food containers, cans, bottles, and other trash from the project area will be deposited in trash containers with an adequate lid or cover to contain trash. All food waste shall be placed in a securely-covered bin and removed from the site on a weekly basis to avoid attracting animals.

Applicable Locations: All project areas

Performance Standards and Timing:

- **Before Construction:** N/A
- **During Construction:** Litter and trash is contained and disposed of adequately
- **After Construction:** N/A

APM BIO-1g: Parking

Vehicles and equipment will be parked on pavement, existing roads or paved road shoulders, developed areas, or approved work areas.

Applicable Locations: All project areas

Performance Standards and Timing:

- **Before Construction:** N/A
- **During Construction:** Vehicle and equipment parking is limited to appropriate areas
- **After Construction:** N/A

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APM BIO-1h: Access Route and Work Area Limitations

Vehicles will be confined to public roadways and pre-approved access routes (e.g., private paved and unpaved roads, and overland routes), previously disturbed and unvegetated roadsides, and work areas. Access routes and construction work areas will be limited to the minimum necessary to achieve the project goals.

Applicable Locations: All project areas

Performance Standards and Timing:

- **Before Construction:** N/A
- **During Construction:** Vehicle and equipment access is limited to approved areas and access routes
- **After Construction:** N/A

APM BIO-1j: Pets and Firearms

No pets or firearms will be permitted at the project site.

Applicable Locations: All project areas

Performance Standards and Timing:

- **Before Construction:** N/A
- **During Construction:** No pets and firearms are brought to the site
- **After Construction:** N/A

APM BIO-1k: Cover Excavations

Pole excavations shall be thoroughly covered at the end of each work day to prevent people, wildlife, or livestock from falling in.

Trench excavations greater than 2 feet deep will be sloped, or have escape ramps installed that are suitable for the escape of wildlife, or be thoroughly covered at the end of the day.

All excavations in active work areas will be inspected for wildlife at the beginning of the work day and prior to backfilling.

If a special-status species is discovered in an excavation area, work in the area will be redirected and the special-status species shall first be allowed to leave the area of its own accord. In the event that a special-status species is trapped in an excavation and is unable to leave on its own accord, removal will be performed or overseen by a biological monitor with the applicable permits for handling of the species.

Applicable Locations: All project areas where qualifying excavation occurs

Performance Standards and Timing:

- **Before Construction:** N/A
- **During Construction:** (1) Excavations are covered, sloped, ramped, and marked appropriately, (2) Excavations are inspected for wildlife, (3) Any trapped wildlife is relocated, and (4) Any trapped special-status wildlife is relocated according to applicable USFWS and CDFW authorizations
- **After Construction:** N/A

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APM BIO-7: California Tiger Salamander

Unless otherwise authorized by USFWS and/or CDFW, PG&E shall implement the following procedures to protect CTS that may be present in designated critical habitat for CTS and in areas identified in the Santa Rosa Plain Conservation Strategy (SRPCS) as locations where CTS could be adversely affected:

- A qualified biologist, who is approved by USFWS and/or CDFW if required⁴, shall conduct a pre-construction clearance survey of the work areas no more than 24 hours in advance of work activities that could adversely affect CTS.
- If construction activities must occur during the wet season (October 15 through April 15), a qualified biologist, who is approved by USFWS and/or CDFW if required, will determine if it is appropriate to fence the perimeter of work areas located in areas. Amphibian exclusion fencing will be used. Installation of exclusion fencing will occur under the supervision of a qualified biologist. The amphibian exclusion fencing will remain in place for the duration of construction in that area during the wet season, and will be monitored regularly by environmental inspectors or biologists. Where access is necessary, gates will be installed within the exclusion fence.
- Grading and vegetation clearing shall not occur where CTS could be adversely affected during the wet season.
- During wet weather or the rainy season, all open holes, pits, and trenches will be protected to ensure that CTS do not become entrapped. Qualified personnel will install protective fencing, coverings, or ramps to either prevent CTS from falling into excavations or to allow for escape. At the end of each work day, trenches will be covered and/or fenced. Excavation sites will be inspected each morning, prior to the start of construction activities, to ensure that no CTS are trapped.
- During the wet season or after a rain event (with greater than 0.1 inches of rainfall), construction personnel will check underneath all vehicles (i.e., tires, tracks, etc.) for the presence of CTS.
- Best management practices (BMPs) shall be implemented to minimize erosion and prevent sediment from leaving work areas and entering any aquatic habitat. Monofilament netting that could entrap CTS shall not be used for any erosion-control materials.

PG&E may consult with USFWS and/or CDFW before beginning work in designated critical habitat for CTS and in areas identified in the SRPCS as locations where CTS could be adversely affected to determine the necessity of implementing the requirements listed above based on the habitat characteristics in the project area. Such considerations may include adjacent land uses and lack of connectivity to suitable habitat where project work areas are located.

Any discovered CTS will be reported to the on-site biologist or to PG&E environmental staff. If a CTS is found during work activities, PG&E shall redirect work that poses a risk to the animal, as determined by a qualified biologist, and consult with USFWS and/or CDFW before resuming work in the area. CTS handling and relocation may only occur after consultation with the permitting agencies, and must be conducted by individuals with proper qualifications and agency approval.

PG&E shall provide CPUC with any agency permits and determinations regarding CTS for the project.

Applicable Locations: Work areas located in designated critical habitat for CTS and in areas identified in the SRPCS as locations where CTS could be adversely affected

Performance Standards and Timing:

- **Before Construction:** (1) PG&E provides CPUC with any agency permits or determinations, (2) A pre-construction clearance survey is performed, and (3) CTS exclusion fencing is installed, if and where appropriate
- **During Construction:** PG&E implements CTS protection measures in designated habitat for CTS or areas identified in the SRPCS as locations where CTS could be adversely affected, unless otherwise authorized by USFWS and/or CDFW
- **After Construction:** N/A

⁴ For purposes of this measure, approval “if required” means if required by USFWS or CDFW.

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APM BIO-8: American Badger

A qualified biologist shall conduct a pre-activity survey for active American badger dens within 30 days prior to grading or vegetation clearing in work areas, or use of overland access routes. The pre-activity survey area shall be limited to potentially suitable habitat for American badger (e.g., grasslands and woodlands) located within 250 feet of work areas where grading or land vegetation clearing may occur and within or immediately adjacent to overland access routes. PG&E shall submit the survey results to CPUC prior to construction.

PG&E may use cameras to determine if dens are active. If active dens are identified at any time during construction, the dens shall be flagged and avoided. A 250-foot work restriction buffer shall be established around active maternal dens. For non-maternal dens, a 50-foot work restriction buffer shall be established around active dens. Smaller buffers may be established through consultation with CDFW. If an active non-maternal den cannot be avoided, PG&E may consult with CDFW to determine if it would be appropriate to implement passive exclusion techniques, such as sealing the den after animals have vacated.

A qualified biologist shall inspect construction activities near active American badger dens on a weekly basis to ensure the work restriction buffers are implemented appropriately and active dens are avoided.

Applicable Locations: Potentially suitable habitat for American badger (e.g., grasslands and woodlands) within 250 feet of work areas where grading or land vegetation clearing may occur and within or immediately adjacent to overland access routes

Performance Standards and Timing:

- **Before Construction:** Pre-construction surveys are conducted for American badger dens and survey results are submitted to the CPUC
- **During Construction:** (1) Work restriction buffers are implemented, and (2) Construction activities near active dens are monitored
- **After Construction:** N/A

APM BIO-9: Western Pond Turtle

A survey for western pond turtle shall be performed by a qualified biologist within 24 hours prior to work within 400 feet of potentially suitable habitat (e.g., ponds, lakes, slow streams, or marshes with vegetated borders, rocks, or logs).

A qualified biologist shall also conduct daily sweeps during the spring nesting season of work areas and access routes within 400 feet of suitable habitat for western pond turtle prior to work activities. The daily sweeps shall consist of walking the limits of construction areas and access routes to identify any pond turtles that may be present.

Individual western pond turtles, if found in the work area during spring/nesting season, shall be relocated out of harm's way and outside of the construction area in the direction of travel, or as directed by the CDFW. Similarly, if found during hibernation movements in winter, individual western pond turtles will be relocated outside of the construction area in the direction of travel, or as directed by CDFW.

Applicable Locations: All project locations within 400 feet suitable habitat for western pond turtle

Performance Standards and Timing:

- **Before Construction:** Pre-construction survey for western pond turtle is conducted within 400 feet of suitable aquatic habitat
- **During Construction:** (1) Daily sweeps within 400 feet of suitable habitat are conducted during the spring nesting season, and (2) Western pond turtle are relocated out of harm's way in the direction of travel
- **After Construction:** N/A

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APM BIO-10: Tree Removal and Mitigation

Tree removal will be minimized to what is required to implement the project. For removal of large valley oak trees greater than 20 inches dbh or small valley oaks with a cumulative dbh greater than 60 inches that occurs within the Sonoma County Valley Oak Combining District, PG&E will coordinate with landowners to either replace or pay an in-lieu fee to the County valley oak planting program. Any protected trees that are otherwise removed will be documented and replaced at a 1:1 ratio or other measure derived through coordination with Sonoma County or the Town of Windsor that provides an equal level of compensation.

Applicable Locations: All project areas where qualifying oak tree removal occurs

Performance Standards and Timing:

- **Before Construction:** PG&E identifies all qualifying oak trees that may be impacted with work areas and access routes
- **During Construction:** (1) PG&E documents all qualifying oak trees that are removed, (2) PG&E coordinates with applicable landowners to replace oak trees or pay fee to County tree planting program, and (3) Protected oak trees are replaced at a 1:1 ratio or as determined through coordination with the County
- **After Construction:** Ensure success of replanting if trees are replaced

MM Biology-1: General Biological Monitoring (Supersedes APM BIO-1b and APM BIO-1c)

Biologist Approval and Qualifications. CPUC-approved qualified biologists will conduct biological surveys and monitoring for the project. Qualified biologists are defined as individuals with a bachelor's degree or above in a biological science field and demonstrated field experience. Approved and qualified biologists shall conduct required surveys and monitoring for special-status species and active nests. Qualified avian biologists are defined as individuals with demonstrated field expertise in ornithology, in particular, nesting behavior and nest detection. Monitoring biologists conducting avian nest checks shall have demonstrated experience surveying or monitoring nesting birds. Qualified botanists are defined as individuals with demonstrated field expertise in botany. Qualified herpetologists are defined as individuals with demonstrated experience with California reptile and amphibian species. Biologists qualified for construction monitoring shall hold at minimum 1 to 2 years of construction-related biological monitoring experience. Biologists qualified as a lead field monitoring biologist shall have 5 or more years of related experience.

General Monitoring Procedures. The approved biologist shall conduct general biological monitoring during construction activities that may disturb sensitive biological resources. The general biological monitoring (as required by this measure) may be conducted concurrently with other required monitoring activities, as appropriate. The biological monitor shall be responsible for ensuring compliance with avoidance and minimization procedures, regularly attending morning tailboard meetings with workers, and administering the required biological training requirements.

Resource Delineation. Prior to construction or access in any area containing or potentially containing sensitive habitats, the biological monitor shall mark or otherwise delineate the limits of sensitive habitats and resources (i.e., wetlands and other water features, suitable aquatic habitat) for avoidance, and where necessary, post signs at access route entrances to inform workers of special access considerations (i.e., seasonal restrictions, biological monitor escort, etc.). Resource markings and signs shall be maintained and repaired as needed and as directed by the biological monitor.

A biological monitor shall be present during the initial construction access in all unpaved areas to identify and mark sensitive resources for avoidance. The biological monitor shall also be present during all grading and vegetation clearing (e.g., mowing, trimming, and removal) within 50 feet of sensitive habitats or resources unless otherwise agreed by the CPUC biologist, lead environmental monitor, and PG&E's lead biologist. The biological monitor shall have full authority to halt construction once safe to do so if a resource has or may be impacted.

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The biological monitor shall also visit each active work site at least once a week to inspect the work area for the presence of biological resources, verify that all avoidance measures (e.g., flagging or fencing) are in place, and document any species relocation or impacts.

Applicable Locations: All unpaved work areas within 50 feet of sensitive resources

Performance Standards and Timing:

- **Before Construction:** (1) PG&E submits qualifications for general biological monitor(s) to the CPUC for review and approval, and (2) The extent of work areas in locations with sensitive resource potential are marked
- **During Construction:** (1) Biological monitoring is conducted when working in sensitive habitats and at least once a week, and (2) Signs and marking and flagging material are maintained and repaired
- **After Construction:** N/A

MM Biology-2: Special-status Plants (Supersedes APM BIO-4)

Focused Surveys. Qualified botanist(s) shall conduct protocol-level botanical surveys, employing the CNPS "Intuitive Controlled" survey method or other accepted botanical survey protocol. The surveys shall include a floristic inventory and focused search for special-status plants with potential to occur in project areas where suitable habitat is present. Special-status plant surveys shall be conducted during the appropriate blooming period for each species and prior to construction activities. Special-status plant survey(s) shall be conducted within 2 years of mobilization.

The survey results shall be summarized in a report and provided to the CPUC no less than 30 days prior to construction. The survey report shall identify the botanists' names and qualifications, and a description of the survey dates, methods, and a description of the survey efforts, including a list of the species that were searched for, results of the plant inventory evaluation, and suitable habitat that was encountered. The report shall include maps (1: 3,000 scale) that identify final project work areas and access routes, the locations of suitable habitat within the project study area as defined in the IS/MND, and the extent of focused plant surveys that cover project areas located in suitable habitat. If any special-status plant individuals or populations are encountered, the plants shall be enumerated and described in the report. Maps in the report shall identify point locations for individual plants and boundaries for plant populations. The report shall include recommendations for avoiding the plants, where feasible.

If special-status plants cannot be avoided, the plant impacts shall be enumerated and described in the survey report. PG&E shall consult with USFWS and CDFW should any state- or federally-listed plants be found that cannot be avoided, to determine if permit authorizations are required. PG&E shall provide the CPUC with any permits and authorizations obtained from USFWS and CDFW.

Special-status plants within and adjacent to work areas and access routes shall be marked and completely avoided, to the extent feasible, by a qualified botanist.

Salvage and Replanting Plan. If impacts on the special-status plant species cannot be avoided and if impacts would be substantial, as determined by the CPUC taking into consideration the rarity of the species in the project area and the extent of the impact, PG&E shall prepare and implement a Salvage and Replanting Plan. The plan would specify, at a minimum, the following:

- Location of the mitigation site(s) (extent of the plants within and adjacent to project areas).
- Procedures for procuring plants, such as transplanting or collecting seed from plants to be impacted, including storage locations and methods to preserve the plants.
- Procedures for propagating collected seed, including storage methods.
- Quantity and species of plants to be planted or transplanted.
- Planting procedures, including the use of soil preparation and irrigation.
- Schedule and action plan to maintain and monitor the mitigation site for a minimum 3-year period.
- Reporting procedures, including the contents of annual progress reports.
- List of criteria (e.g., growth, plant cover, survivorship) by which to measure success of the plantings.
- Contingency measures to implement if the plantings are not successful (i.e., weed removal, supplemental plantings, etc.).

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PG&E shall submit the plan to the CPUC for review and approval no less than 30 days prior to impacting or collecting special-status plants. At a minimum, the transplanted/created population(s) shall have approximately the same characteristics as the impacted population (within 10-percent density, total population number, and non-native/invasive). Seasonal population changes may be taken into account by identifying and documenting the characteristics of an appropriate representative reference site prior to impacting a population. Reference sites that will be used must be identified and described in the Salvage and Replanting Plan.

If CPUC determines that the Salvage and Replanting Plan is not likely to be successful (due to the species' life form, habitat requirements, or other factors), then either (1) impacts on the special-status plants in questions must be avoided, or (2) a financial contribution will be made to an organization that restores/protects special-status plant populations in the project region.

Applicable Locations: All project areas where suitable habitat for special-status plants is present

Performance Standards and Timing:

- **Before Construction:** (1) Special-status plant surveys are conducted during the appropriate blooming period for each species, (2) A survey report is submitted to the CPUC no less than 30 days before construction, (3) if an impact to a special-status plant cannot be avoided, a Salvage and Replanting Plan is submitted to the CPUC for approval, (4) Plant salvage and/or seed collection procedures are implemented, and (5) Special-status plant populations are flagged for avoidance.
- **During Construction:** (1) Special-status plants are avoided and monitored appropriately, and (2) Salvaged plants and seed are stored and monitored appropriately
- **After Construction:** Replanting procedures and monitoring are implemented until the success criteria are met, or a financial contribution is made to an organization that restores/protects special-status populations in the project region.

MM Biology-3: California Red-legged Frog (Supersedes APM BIO-1d, APM BIO-1m, and APM BIO-6)

Habitat Survey and Mapping. A qualified biologist shall identify potentially suitable aquatic habitat for CRLF (i.e., ponds, creeks, and perennial and seasonal streams) within 500 feet of all project disturbance areas and watercourse crossings. PG&E shall submit maps (1: 3,000 scale) to the CPUC identifying the locations of potentially suitable aquatic habitat features and upland habitat within 500 feet of the project features, no less than 30 days before construction. The maps shall identify access route segments, pole locations, and work area limits that would be surveyed and fenced, monitored, or otherwise avoided as specified below.

Substantial barriers or topography that would prevent CRLF dispersal should be identified on the maps. Potentially suitable habitat that is fragmented or disconnected by such barriers shall not be subject to the provisions set forth in this measure, as determined in coordination with the CPUC.

Permits and Agency Authorizations. PG&E shall consult with USFWS to obtain permit authorizations for any necessary take coverage prior to conducting work activities within aquatic or upland habitat for CRLF. PG&E shall provide the CPUC with any required permits and authorizations obtained from USFWS, including correspondence regarding habitat determinations or avoidance and minimizations procedures. CRLF may only be handled by a qualified biologist with approval and all appropriate permit authorizations from USFWS.

Avoidance, Minimization, and Monitoring. The following procedures shall be implemented during construction within CRLF habitat, unless conflicts arise between applicable USFWS permit conditions. In such cases, USFWS permit conditions shall supersede these procedures, and CPUC shall be provided with copies of the permits and all associated reports documenting compliance with permit conditions:

- The names and qualifications of biologists that would conduct the CRLF procedures described below shall be submitted to the CPUC for approval, unless USFWS has granted prior approval and a copy of the approval letter is submitted to CPUC.
- No more than 24 hours prior to initial ground disturbance in mapped CRLF habitat, an approved biologist shall conduct a pre-activity survey for CRLF within the mapped habitat, as defined

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above. The pre-activity survey shall consist of walking the work area limits and adjacent areas to determine if any CRLF are present. All areas within the survey area shall be inspected that could be used by CRLF for feeding, breeding, sheltering, and movement, including suitable mammal burrows.

- Construction activities within watercourse crossings may only occur when the feature is dry or if the crossing method fully spans the feature (refer to MM Hydrology-4).
- Aquatic habitat adjacent to work areas and along access routes shall be adequately flagged for avoidance, where necessary.
- Construction activities within 500 feet of mapped aquatic habitat shall be restricted to the dry season (April 15 through October 15), to the extent feasible, or when water is not present. If construction activities must occur in these areas during the wet season (October 16 through April 14), an approved biologist shall determine which of the following measures should be implemented at each work area based on the CRLF habitat characteristics and work activities that would occur:
 - **Option 1 – Install Exclusion Fencing.** Temporary exclusion fencing shall be installed around the limits of work areas and access routes to ensure CRLF cannot enter the area. Installation of exclusion fencing shall occur under the supervision of an approved biologist and immediately following a clearance survey of the area. The fencing shall have a minimum aboveground height of 36 inches, and the bottom of the fence should be keyed in at least 4 inches deep and backfilled with soil, sand bags, gravel, or other means to prevent CRLF from passing under the fencing. The fencing shall be installed in a manner that reduces the potential for trapping migrating wildlife. Cover boards shall be installed along the perimeter of fencing to provide protection from the sun and predators, where necessary and appropriate. Gates shall be installed in the fencing that allow project access and adequately exclude wildlife. The exclusion fencing shall remain in place and maintained for the duration of construction activities at the location during the wet season. Prior to entering and beginning work in fenced areas each day, designated personnel shall inspect the work area and both sides of the fence perimeter for CRLF and any trapped wildlife. The designated personnel must be trained by an approved biologist on CRLF identification, the laws protecting the species, and procedures to implement if the species is observed. If CRLF or trapped wildlife are observed, an approved biologist shall be notified immediately to determine the appropriate procedures to implement.
 - **Option 2 – Monitor Construction Activities.** In lieu of exclusion fencing, an approved biologist shall monitor the initial ground-disturbing construction activities in each work area. Following the initial activities, at a minimum, an approved biologist shall conduct morning sweeps of each work area prior the start of construction activities. An approved biologist would then conduct spot check-monitoring at each location for the remainder of the work day.

Neither Options 1 or 2 would be required if a qualified CRLF biologist determines that non-ground-disturbing activities (i.e., access on established roads or overland routes) would have no potential effect on CRLF. Such exceptions shall be subject to CPUC approval and shall not apply to areas where grading or vegetation clearing would occur.

- If any CRLF adults, subadults, juveniles, tadpoles, or eggs are found during the pre-activity surveys, fence installation, daily checks of fencing, or monitoring, construction shall be halted (when safe to do so) in the vicinity of the observation that may pose a risk to the animal, as determined by an approved biologist, and USFWS shall be contacted to determine how to proceed. Alternatively, if a Biological Opinion has been obtained from USFWS for the project that addresses CRLF, then the associated measures and relocation protocols may be implemented. CPUC shall be notified by email within 24 hours of any CRLF observations.
- An approved biologist shall oversee the installation of erosion and sediment controls within mapped habitat to ensure the materials do not pose a risk to CRLF. Plastic monofilament or loosely woven erosion control netting, or any similar materials that may entangle special-status wildlife, shall not be used.
- Vehicle and equipment speeds shall not exceed 5 mph while on unpaved areas within 300 feet of suitable aquatic habitat.
- After a rain event (greater than 0.1 inch of rainfall), workers shall check underneath vehicles (i.e., tires, tracks, etc.) for the presence of wildlife. Any discovered wildlife shall be reported to an approved biologist for relocation assistance.

Applicable Locations: Within 500 feet of potentially suitable aquatic habitat for CRLF

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Performance Standards and Timing:

- **Before Construction:** (1) CRLF habitat mapping is submitted to the CPUC no less than 30 days prior to construction, (2) Any USFWS permit authorizations are submitted to the CPUC, (3) The names and qualifications of CRLF biologists are submitted to the CPUC for approval, (4) Pre-activity surveys are conducted, and (5) Any exclusion fencing is installed under Option 1
- **During Construction:** (1) Daily sweeps and monitoring procedures are implemented, (2) Exclusion fencing is maintained under Option 1 or an approved biologist monitors construction, and (3) All avoidance and minimization measures are implemented
- **After Construction:** N/A

MM Biology-4: Foothill Yellow-legged Frog (Supersedes APM BIO-1b, APM BIO-1c, and APM BIO-1m)

Habitat Survey and Mapping. A qualified biologist shall identify potentially suitable aquatic habitat for FYLF (i.e., perennial streams with cobble or rock substrate, or seasonal streams with cobble or rock substrate and standing water, or visible moisture in the immediate vicinity) within 10 feet of all project disturbance areas and watercourse crossings. PG&E shall submit maps (1: 3,000 scale) to the CPUC identifying the locations of suitable FYLF aquatic habitat, and upland habitat within 10 feet of the feature, no less than 30 days before construction. The maps shall identify access route segments, pole locations, and work area limits that would be surveyed and monitored, as defined below.

Avoidance, Minimization, and Monitoring. No more than 24 hours prior to initial ground disturbance in mapped FYLF habitat, an approved biologist shall conduct pre-activity surveys for FYLF. The pre-activity survey shall consist of walking the work area limits and adjacent areas to determine if any FYLF are present. All areas within the survey area that could be used by FYLF for feeding, breeding, sheltering, and movement shall be inspected. The survey shall include an adequate examination of damp areas within or in proximity to creeks.

If FYLF are observed during the pre-activity surveys, an approved biologist shall conduct daily sweeps of work areas within the mapped habitat for FYLF prior to work activities to identify any FYLF that may have entered the adjacent work area. The daily sweeps shall consist of walking the limits of construction areas and access routes to identify any FYLF that may be present. If FYLF are found in work areas, the animal shall be provided with the opportunity to leave on its own accord. If necessary, and upon approval by the CDFW, the animal may be moved out of harm's way by an approved biologist in possession of all required permits and authorizations from the CDFW.

Applicable Locations: Within 10 feet of potentially suitable aquatic habitat for FYLF

Performance Standards and Timing:

- **Before Construction:** (1) FYLF habitat mapping is submitted to CPUC no less than 30 days prior to construction, and (2) Pre-activity surveys are conducted
- **During Construction:** Daily sweeps of work areas are performed within mapped FYLF habitat, where applicable
- **After Construction:** N/A

MM Biology-5: Special-status and Protected Migratory Birds (Supersedes APM BIO-2)

Nest Surveys. If work is scheduled during the nesting season (generally from February 1 through August 31, but may be earlier or later depending on species nesting patterns and weather conditions), nest detection surveys will occur within 7 days prior to the start of work activities at designated construction areas, staging areas, and landing zones to determine nesting status. Nest surveys will be accomplished by ground surveys within 500 feet of work areas, to the extent accessible, and/or by helicopter between 500 feet and 0.5 mile of work areas. Survey areas will generally correspond with the species-specific standard buffers set forth in *Nesting Birds: Species-Specific Buffers for PG&E Activities* located in Appendix D. Surveys will be conducted during the appropriate time of day and season for the

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species expected to be present. Access for ground surveys will be subject to PG&E's easement and property access permissions. Passerine survey areas will generally be 250 feet from all work areas. The non-special-status raptor survey area will generally be 500 feet from work areas where trees and other suitable nesting substrate are located. Helicopter surveys for special-status raptors will be conducted within 0.5 mile of all project work areas.

After construction begins in an area, avian biologists or approved avian monitors shall inspect suitable nesting habitat within 250 feet (passerines) and 500 feet (raptors) of active work areas on a weekly basis during the nesting season to identify and document any new active nests that may be present (see nest monitoring and reporting below – and considerations for nesting in active work areas). If special-status raptor nests cannot be observed from the ground, weekly checks for special-status raptors may occur by helicopter during periods when helicopters are in use. Helicopter flight restrictions for nest detection surveys may be in effect for densely populated residential areas, and will include observance of appropriate established buffers and avoidance of hovering in the vicinity of active nest sites.

A CPUC-approved and qualified avian biologist shall conduct surveys for nesting birds.

Active vs. Inactive Nests. When a nest of any bird species is located within the required survey/potential disturbance area, an approved avian biologist shall determine whether the nest is active. A nest shall be defined as active once it contains eggs or young, or potentially contains eggs or young if presence cannot be reasonably determined. An inactive nest is defined as a nest that has been abandoned by the adult bird or once fledglings are no longer dependent on the nest site or parental care.

Standard Nest Buffers. If active nests are found, the biologist will establish a species-specific standard nest buffer around each active nest, as listed in *Nesting Birds: Species-Specific Buffers for PG&E Activities*. For special-status raptor nests, a nest buffer shall be implemented once an approved avian biologist determines that the nest territory is occupied by adults. Construction activities would be restricted within the buffers depending on the nature and location of the activities and results of nest monitoring (see below).

Buffer Adjustments. Where feasible, standard buffers will apply, although the biologist may increase or decrease the standard buffers in accordance with the factors set forth in *Nesting Birds: Species-Specific Buffers for PG&E Activities*. For high-disturbance helicopter activities near work areas with active nests, standard buffer distances may be increased up to double the distance with agreement between the CPUC biologist, lead environmental monitor, and PG&E's lead biologist. Nest buffers shall not restrict construction-related traffic using existing roads. Nesting pair acclimation to disturbance in areas with regularly occurring human activities will be considered when establishing reduced nest buffers. Nest buffers shall be implemented until the approved avian biologist determines that the nest is no longer active. Active nests will not be impacted during tree or structure removal.

Buffer Reductions. The standard buffer distances for nests may be reduced on a case-by-case basis based on site-specific conditions set forth in *Nesting Birds: Species-Specific Buffers for PG&E Activities*, such as avian biology, nest concealment, existing conditions, habituation, environmental conditions, and level of project activity, upon agreement between the CPUC biologist, lead environmental monitor, and PG&E's lead project biologist. Buffer reduction will be included in the weekly monitoring report and will document:

- Species and listing status
- Location description
- Pre-existing conditions present on site
- Description of the work to be conducted within the reduced buffer, including equipment type, and start date
- Size and expected duration of proposed buffer reduction
- Reason for buffer reduction
- Name of the biologist(s) who observed the nest and approved the buffer reduction
- Proposed frequency of monitoring necessary for the nest given the type of bird and surrounding conditions as determined by the approved avian biologist

Nesting in Active Work Areas. If birds are found building nests within the standard buffer distance after specific project activities begin and the activities are not expected to increase in duration, intensity, or distance from the nest, it shall be assumed that the birds are tolerant of those specific project activities. If the specific project activities change within the standard buffer increase in duration, intensity, or

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distance, the avian monitor shall observe the nest until it can be determined the birds are tolerant of the new activities. If the avian monitor determines that the nesting birds are not tolerant of project activities, the buffer shall be expanded and may be expanded beyond the standard buffer distance if necessary.

Nest Monitoring. Active nests will be periodically monitored at a frequency and length of time necessary to ensure that nesting pairs continue to tend the nest, and until the monitoring biologist has determined that the young have fledged, or once construction ends. At minimum, nest monitoring will occur weekly. For reduced buffers, nest monitoring will initially occur daily to determine whether a larger buffer is necessary. Daily nest monitoring will occur during helicopter operations within standard buffer distances. Per the discretion of the monitoring biologist and CPUC biologist, vegetation removal by hand may be allowed within standard nest buffers or in areas of potential nesting activity. The monitoring biologist will have authority to order the cessation of nearby project activities, once safe to do so, if nesting pairs exhibit signs of disturbance.

Reporting. Survey results shall be submitted to the CPUC on a weekly basis. Nest locations and buffers shall be mapped using a Geographic Information System (GIS). Nest information and monitoring observations shall be documented and provided to the CPUC weekly, and include the following information:

- Date, time, and length of observation period
- Nest status (active or inactive)
- Species and listing status
- Nest location, including approximate nest height
- Behavioral observations
- Site conditions, including construction activities
- Estimated incubation start date, if possible
- Estimated fledge date
- Number of eggs or hatchlings, if observed
- Buffer size implemented

No avian reporting shall be required for construction activities outside of the nesting season unless species are observed nesting outside of the normal season or special-status bird species are observed in the project area.

Nesting Deterrents. As appropriate, nest deterrent strategies may be used to prevent birds from nesting in construction equipment or staged materials. Nest deterrent strategies may include exclusion netting, covering equipment with tarps, or covering small holes. The monitoring biologist shall review bird netting use daily due to risk of entanglement.

Design Guidelines. PG&E shall adhere to recommendations published by the Avian Power Line Interaction Committee, Reducing Avian Collisions with Power Lines: The State of the Art in 2012, as feasible.

Applicable Locations: Within 0.5 mile (special-status raptors), 500 feet (all other raptors), and 250 feet (passerines) of all project areas

Performance Standards and Timing:

- **Before Construction:** PG&E conducts pre-construction surveys for active bird nests
- **During Construction:** (1) PG&E conducts on-going monitoring of any active bird nests, (2) No-disturbance buffers are enforced, and (3) PG&E submits weekly nest information to the CPUC
- **After Construction:** N/A

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MM Biology-6: Special-status and Protected Bats (Supersedes APM BIO-5)

Roosting Habitat Assessment. Prior to construction, a CPUC-approved qualified biologist with expertise in bats shall conduct a pre-construction assessment for suitable special-status or otherwise protected⁵ bat roosting habitat that may be impacted within approximately 50 feet of project work areas and access routes where grading and vegetation removal may occur. The qualified biologist shall identify all suitable bat roosts that may be impacted, including man-made structures, snags, rotten stumps, mature trees with broken limbs, trees with exfoliating bark, bole cavities or hollows, and dense foliage. The qualified biologist shall document the results of the pre-construction assessment and record the location of suitable bat roosts. The potential use of these roosts (e.g., day roost, night roost, maternity roost, hibernation roost) shall also be described. The results shall be submitted to the CPUC at least 30 days prior to construction.

Avoidance and Minimization. Where suitable special-status or otherwise protected bat roosts are identified, the following procedures shall be implemented:

- Suitable bat roosts shall be marked and avoided to the extent practicable.
- When possible, removal of trees identified as providing suitable bat roosting habitat should be conducted during seasonal periods of bat activity, including:
 - (1) Between March 1 and April 15, or after evening temperatures rise above 45 degrees Fahrenheit and/or no more than ½ inch of rainfall within 24 hours occurs; or
 - (2) Between September 1 and about October 15, or before evening temperatures fall below 45 degrees Fahrenheit and/or more than ½ inch of rainfall within 24 hours occurs.
- If it is determined that a special-status or otherwise protected bat maternity roost is potentially present, the roosts shall not be removed during the breeding season (April 15 to August 31) to the extent practicable. If such a potential bat maternity roost must be removed during the breeding season, then the following shall be implemented:
 - (1) Acoustic emergence surveys or other appropriate methods shall be conducted/implemented to further evaluate if the roost is an active maternity roost; the methods and findings of this work would both be subject to CPUC approval;
 - (2) If it is determined that the roost is not an active maternity roost, then the roost may be removed in accordance with the other requirements of this measure;
 - (3) If it is found that an active maternity roost is present, the roost shall not be physically disturbed during the breeding season and an approved bat biologist shall determine if any buffers around the roost are needed.
- Potential suitable non-maternity roosts that cannot be avoided shall be removed on warm days in late morning to afternoon when any bats present are likely to be warm and able to fly.
- An approved bat biologist shall oversee removal of suitable roosts. The biologist shall first inspect all crevices and cavities and attempt to expose any bats that may be present by carefully peeling away bark or cover material and opening crevices, to the extent possible.
- Prior to trimming or removing suitable roosts, the approved bat biologist shall instruct workers to create noise and vibration disturbance on the roost (e.g., concussive hitting with tools and/or chainsaw cutting) for several minutes.

If a cavity cannot be thoroughly inspected on a tree, snag, or stump, clearing crews shall remove smaller limbs and sections above the cavity and carefully expose it so bats may crawl out and fly away. Clearing crews shall wait up to 10 minutes in between each cut to determine if the cavity is empty. Sections of trees and branches that may contain bats shall be set aside and away from work areas so that any remaining bats may escape.

Applicable Locations: Within 50 feet of suitable special-status or otherwise protected bat roosting habitat

⁵ For purposes of this measure, “otherwise protected” bats will include any significant local breeding population that could be adversely impacted by the project, as defined by a local bat expert, and approved by the CPUC.

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Performance Standards and Timing:

- **Before Construction:** A pre-construction survey is conducted for active special-status or otherwise protected bat roosts in locations where grading or vegetation removal could occur within 50 feet of potentially suitable habitat
- **During Construction:** (1) Bat avoidance measures are implemented prior to tree removal with active special-status or otherwise protected bat roosts and (2) Adequate no-disturbance buffers are established around active special-status and otherwise protected bat maternity roosts, if found within 50 feet of construction
- **After Construction:** N/A

MM Biology-7: Revegetation, Restoration, and Monitoring Plan (Supersedes APM BIO-11 and APM BIO-4)

PG&E shall prepare and implement a Revegetation, Restoration, and Monitoring Plan that addresses procedures for quantifying vegetation impacts from construction activities and revegetation and/or restoration requirements for applicable vegetation resources. The plan shall include appropriate revegetation and/or restoration performance standards, monitoring procedures, and reporting procedures for the following vegetation resources, as defined below, and the referenced measures:

- Special-status plant populations (refer to MM Biology-2).
- Suitable habitat for special-status plants and wildlife (specifically grassland, woodland, and forest).
- Sensitive natural plant communities (specifically riparian habitat and Oregon oak woodland) (refer to MM Biology-9).
- Large valley and small valley oaks of qualifying size (refer to APM BIO-10).
- The plan shall be submitted to the CPUC for review and approval no less than 60 days before construction.

Performance Standards. All temporarily disturbed areas shall be restored to near pre-construction conditions to ensure potentially significant permanent impacts do not occur as a result of the project. Pre-construction conditions, including vegetation cover estimates and percentage of Cal-IPC list invasive weeds (plants rated as "High" and "Moderate"), shall be documented for each project work area as described below in the Pre-Construction Report. Annual performance standards and final success criteria shall be developed for each vegetation resource that demonstrates an adequate progression toward pre-construction conditions such that habitat functions and values and species composition of the restored vegetation are comparable to those of nearby comparable vegetation within 3 years.

The plan shall define annual quantitative thresholds for both vegetation resources and invasive plant species and identify corrective actions to implement if the annual thresholds are not achieved. Work sites that have been proven to meet the final success criteria shall not require further monitoring and reporting.

Monitoring Procedures. A qualified biologist or botanist shall monitor vegetation resources that are impacted. The plan shall identify appropriate post-construction monitoring procedures for each vegetation resource, including specific methods, frequencies, and timing for seasonal requirements.

Pre-Construction Report(s). Prior to construction, a qualified biologist or botanist shall survey all final work areas and overland access routes to identify the vegetation resources that may be impacted, including their location, composition, condition, and extent of planned project disturbance. Survey efforts may be conducted in conjunction with focused surveys required for special-status species, as described in applicable measures. Anticipated impacts on vegetation resources shall be quantified and documented in the report, such as special-status plant individuals or the characteristics of populations (i.e., estimated size and cover estimates); the types and numbers of tree and shrub individuals; and restoration acreages for grassland, woodland, and forest vegetation communities). The baseline conditions for adjacent and comparable vegetation resources shall also be documented in the report. Such areas may be used as a control for post-construction monitoring to determine relative restoration

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performance and account for seasonal fluctuations in invasive species composition, general growth rates, and overall coverage.

The report shall include maps (1: 3,000 scale) that identify the types and locations of the vegetation resources that may be impacted, the limits of the planned work areas, and project access routes. An initial report shall be submitted to the CPUC no less than 30 days before construction. Separate reports may be submitted for each project segment, if necessary. If new impacts or restoration procedures are identified, the plan shall be updated and submitted in track changes to the CPUC.

Post-Construction Reports. PG&E shall prepare and submit Post-Construction Reports to the CPUC on an annual basis until construction is complete. Post-Construction Reports shall include table summaries of actual project impacts, and maps of the areas that identify the limits of actual impacts. The summary table shall include the location name/ID for each impact area, anticipated impact acreage from the Pre-Construction Report, and actual impact acreage during construction. The report shall include a brief statement about revegetation, restoration, and monitoring procedures that would be implemented where impacts occurred, as defined in the approved plan.

Annual Monitoring Reports. Once revegetation and restoration begins, PG&E shall conduct surveys during the growing season and submit Annual Monitoring Reports to the CPUC. The reports shall summarize revegetation and restoration efforts for each applicable impact area, provide data on performance standards and success criteria, and detail any corrective actions necessary to close out sites. Monitoring results will be updated in the plan only when applicable (i.e., seasonally or annually). Once the success criteria have been achieved for each location, monitoring and reporting would no longer occur for the location.

PG&E shall provide written updates to CPUC upon request regarding seasonally dependent restoration and corrective actions prior to submission of the annual monitoring reports.

Applicable Locations: Where vegetation resources occur in project areas that could be impacted

Performance Standards and Timing:

- **Before Construction:** (1) PG&E submits a Revegetation, Restoration, and Monitoring Plan to the CPUC at least 60 days prior to construction, and (2) PG&E submits a Pre-Construction Report to the CPUC at least 30 days prior to construction
- **During Construction:** N/A
- **After Construction:** (1) PG&E implements revegetation and restoration procedures from the approved plan, (2) PG&E submits Post-Construction Report(s) to the CPUC, and (3) PG&E submits written updates upon request and annual monitoring reports to the CPUC

MM Biology-8: Minimize Noxious Weeds

Precautions shall be taken to minimize the introduction of any invasive weeds. Construction equipment shall be cleaned of caked-on dirt and plant materials before entering unpaved project areas. Erosion control materials and planting seed mixes shall not introduce invasive weed species. Only certified weed-free straw and mulch shall be used on the site.

Applicable Locations: All work areas

Performance Standards and Timing:

- **Before Construction:** N/A
- **During Construction:** Equipment and vehicles are clean prior to use on site
- **After Construction:** (1) Planting seed mixes and any restoration plants shall not introduce invasive weed species, and (2) Erosion control materials, straw, and mulch are weed-free

3.4 BIOLOGICAL RESOURCES

MM Biology-9: Sensitive Natural Plant Communities

Prior to construction, a qualified biologist shall survey all final work areas and identify the extent of sensitive natural plant communities, specifically riparian habitat and Oregon oak woodland, as described in MM Biology-7 in the Pre-Construction Report.

If sensitive natural plant communities are found in work areas and overland access routes, work areas and overland access routes shall be repositioned where possible to avoid adverse impacts to the sensitive natural plant communities.

If tree impacts cannot be avoided in sensitive natural plant communities, PG&E shall attempt to trim native trees rather than removing them. Native trees over 6-inch diameter at breast height (dbh) trimmed over 25 percent will be assessed by an arborist. Should the arborist conclude that it is likely the trees will not survive the trimming, PG&E shall ensure the trees are replaced at a 1:1 ratio. Native trees over 6-inches dbh that are removed shall be replaced at a 1:1 ratio in the closest appropriate location, by planting seed and/or container stock. Sensitive natural plant communities shall be restored at a ratio of 1:1.

Sensitive natural plant communities that are impacted during construction, and any replanting sites, shall be addressed in the Annual Monitoring Reports, as described in MM Biology-7.

Applicable Locations: All project areas where sensitive natural plant communities are located

Performance Standards and Timing:

- **Before Construction:** (1) PG&E conducts a survey to identify the extent of sensitive natural plant communities and results are submitted with the Pre-Construction Report, and (2) Work areas and access routes are repositioned where possible to avoid sensitive plant communities
- **During Construction:** Sensitive natural plant communities are avoided to the extent feasible
- **After Construction:** (1) Qualifying trees that are trimmed more than 25 percent are assessed by an arborist and replaced, if necessary; (2) Qualifying trees that are removed are replaced at a 1:1 ratio, and (3) Impacted sensitive natural plant communities are restored and addressed in the Annual Monitoring Reports

MM Biology-10: Sudden Oak Death Procedures

All workers shall be trained on requirements and BMPs for reducing the spread of the Sudden Oak Death pathogen prior to working on the site.

All equipment, vehicles, and tools shall be thoroughly cleaned of plant material and soil prior to entering unpaved project areas.

A qualified botanist, biologist, or arborist shall inspect all work areas and access routes for signs of vegetation infected with the Sudden Oak Death pathogen prior to construction. If any work areas are found that contain infected vegetation, PG&E shall implement the following BMPs for Sudden Oak Death recommended by California Oak Mortality Task Force, to the extent feasible:

- Cleaning stations shall be set up at staging yards and all wash water shall be contained within the cleaning area.
- Mud and debris shall be scraped, brushed, or hosed from vehicles, equipment, and tools within designated cleaning areas at project staging yards if working within infected areas.
- A power washer shall be used, where feasible.
- All personnel shall clean boots and clothing of mud and vegetation debris if working within infected areas.

Work in infected areas shall be performed during the dry season (May through October), to the extent feasible, to avoid tracking out infected mud.

Applicable Locations: Areas where Sudden Oak Death-infected vegetation are observed

Performance Standards and Timing:

- **Before Construction:** PG&E surveys for infected vegetation

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- **During Construction:** (1) Vehicles, equipment, and tools are cleaned before showing up at the project site, and (2) Vehicles, equipment, and tools are cleaned before leaving any infected work areas
- **After Construction:** N/A

MM Biology-11: Wetland Mitigation

Waters of the US and state shall be avoided by the project where possible, and impacts shall be minimized to the extent practicable using BMPs during construction. These practices shall include delineating wetlands and waters on project maps and flagging the extent of wetlands and waters within work areas to keep workers and equipment out of the area to be preserved, and using erosion control measures, such as straw wattles, hay bales, and drain inlet controls to keep sediment and debris from entering jurisdictional waters. Design and installation of temporary bridges, such as steel plates, shall be such that the water flow (velocity and low-flow channel width) is not impaired. During project construction, a biological monitor shall be on site to monitor the integrity of wetlands and other waters while major earth moving activities are underway.

For those wetland areas that are impacted as part of the proposed project, appropriate permits shall be acquired from USACE and RWQCB prior to any impacts occurring to regulated waters of the US and/or state. Copies of applicable permits from USACE and RWQCB shall be provided to the CPUC prior to grading, and any conditions in these permits shall become a condition of project approval. Any other conditions that are stipulated for wetland impacts by USACE and/or RWQCB shall also become conditions of project approval. Impacted wetland areas shall be compensated for at a 2:1 ratio via (1) purchase of mitigation credits from a USACE- and RWQCB-approved wetland conservation bank or (2) wetland creation/habitat enhancement.

- **Option 1 – Purchase of Wetland Mitigation Credits.** Prior to purchasing mitigation credits from a qualified conservation bank, approval from USACE and RWQCB shall be required. Mitigation credits shall be purchased prior to breaking ground on the project site.
- **Option 2 – Wetland Creation/Enhancement.** If PG&E elects to create/enhance wetlands on site in lieu of purchasing mitigation credits from an approved mitigation bank, compensation wetlands shall be created/enhanced on site and shall resemble those wetlands affected by the project (i.e., in-kind replacement). If wetlands cannot be created in-kind and on-site, wetland creation/enhancement shall be implemented offsite. Any wetland creation/enhancement plan shall be submitted to the CPUC, USACE and RWQCB for approval. Mitigation requirements shall include that all impacted wetlands are replaced at a minimum 2:1 ratio (for each square foot of impact, one square foot of wetland would be enhanced/created) or as otherwise specified in permitting conditions imposed by USACE and/or RWQCB. Any site where wetlands are created/enhanced must be preserved in perpetuity via recordation of a perpetual restrictive deed recorded on the Title of the property. In addition, a 5-year monitoring plan shall be implemented by a qualified biologist. At the end of the 5-year monitoring period, USACE and RWQCB shall render a conclusion if the created/enhanced wetlands are successful.

Applicable Locations: Where wetland impacts occur

Performance Standards and Timing:

- **Before Construction:** Copies of any USACE and RWQCB required permits are provided to the CPUC.
- **During Construction:** Wetlands and waters are identified on project maps and their extent flagged within work areas.
- **After Construction:** Mitigation identified in USACE and RWQCB permits is completed.

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