# 4.4 Biological Resources

This section describes the existing biological resources conditions of the project site and vicinity, identifies associated regulatory requirements, evaluates potential project and cumulative impacts, and identifies mitigation measures for any significant impacts related to implementation of the of the Laguna Creek Diversion Retrofit Project (Proposed Project). The analysis is based on a Biological Resources Assessment prepared for the Proposed Project. The Biological Resources Assessment is included in Appendix C.

A summary of the comments received during the scoping period for this EIR is provided in Table 2-1 in Chapter 2, Introduction, and a complete list of comments is provided in Appendix A. Comments related to biological resources were received from the California Department of Fish and Wildlife (CDFW) and California Department of Forestry and Fire Protection (CAL FIRE). Issues identified in the public comments related to potentially significant effects on the environment according to the California Environmental Quality Act (CEQA) and/or issues raised by responsible and trustee agencies are identified and addressed in this EIR.

## 4.4.1 Existing Conditions

### 4.4.1.1 Study Area

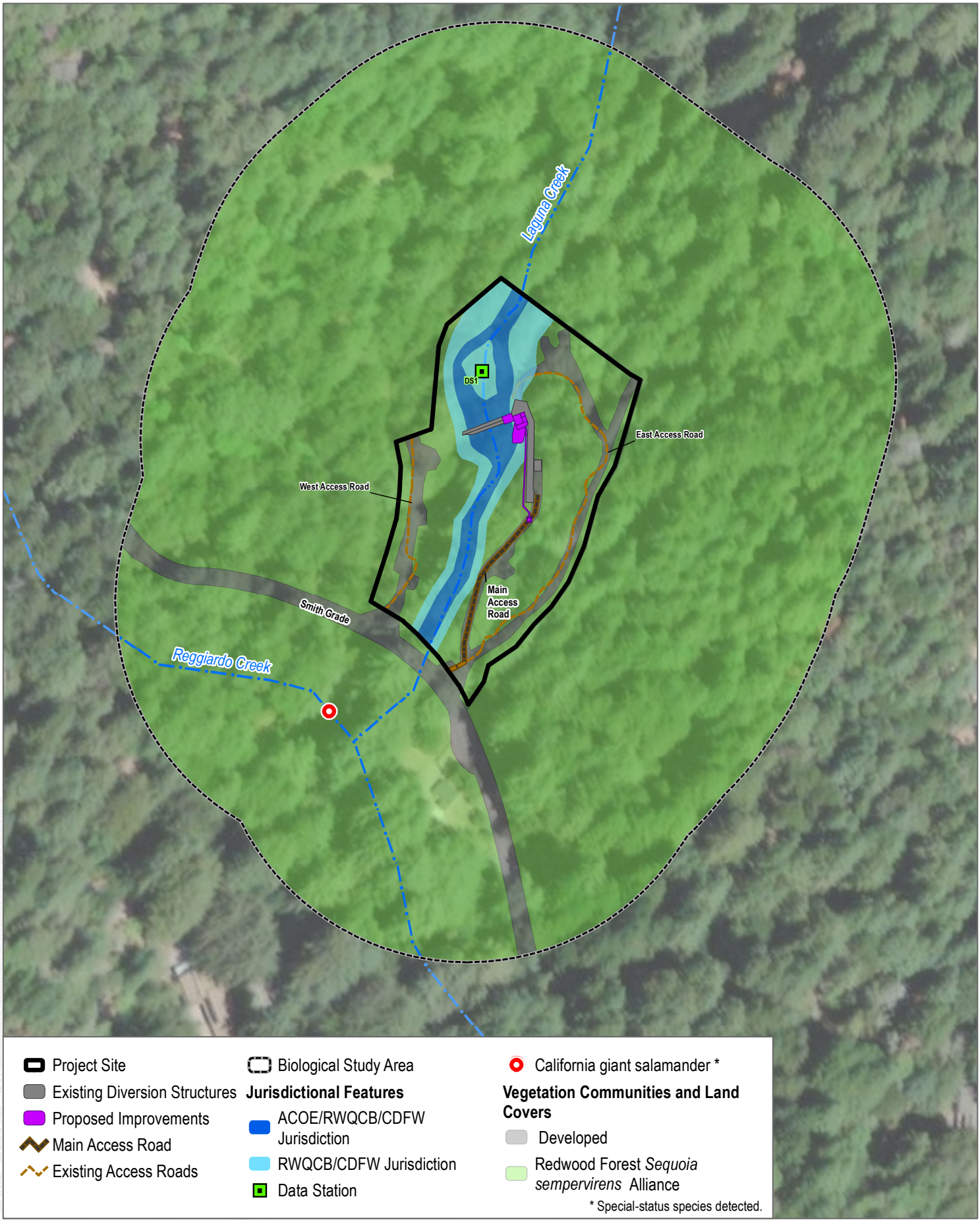
The study area for the evaluation of impacts on biological resources includes the 2.1-acre project site and a 300-foot buffer, which comprises a total area of approximately 17.44 acres. Literature reviews and field surveys were conducted to characterize the existing biological resources setting, including vegetation communities, wildlife species distribution, and special-status species present or potentially present in the study area. Section 4.4.3.2, Analytical Methods, provides additional information about how biological resources in the study area were identified and evaluated. Figure 4.4-1 shows biological resources within the study area, including vegetation communities and land covers, jurisdictional aquatic resources, and special-status species, which are discussed in more detail in the following sections.

### 4.4.1.2 Vegetation Communities and Land Covers

As shown on Figure 4.4-1, the study area is primarily composed of redwood forest alliance (16.65 acres)—a sensitive vegetation community—aside from developed structures and roads (0.79 acres). These vegetation communities and land covers are described as follows.

#### Redwood Forest Alliance

The redwood forest alliance includes redwood (*Sequoia sempervirens*) as the dominant or co-dominant tree in the canopy. The alliance has a continuous to intermittent canopy less than 400 feet in height with an infrequent to common shrub canopy and a variable herbaceous layer (Sawyer et al. 2009). Associated species include bigleaf maple (*Acer macrophyllum*), California bay (*Umbellularia californica*), red alder (*Alnus rubra*), giant chinquapin (*Chrysolepis chrysophylla*), tanoak (*Notholithocarpus densiflorus*), Douglas fir (*Pseudotsuga menziesii*), and Pacific madrone (*Arbutus menziesii*) among others (Sawyer et al. 2009).




SOURCE: Santa Cruz County 2016, ESRI 2020

DUDEK

0 75 150 Feet

**FIGURE** 4.4-1

Project Area Biological Resources

Laguna Creek Diversion Retrofit Project - EIR

Redwood forest alliance supports an overstory of redwood and tanoak with scattered bigleaf maple in the tree layer. The shrub layer is dominated by California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), and Himalayan blackberry (*Rubus armeniacus*); and the herbaceous layer includes redwood sorrel (*Oxalis oregana*), western sword fern (*Polystichum munitum*), sugar scoop (*Tiarella trifoliata*), stinging nettle (*Urtica dioica*), American speedwell (*Veronica americana*), western rush (*Juncus patens*), and horsetail (*Equisetum* sp.). The redwood forest alliance is listed as a sensitive vegetation community (Global and State rarity rank of 3) under the California Natural Community List (CDFW 2019a).

### Urban/Developed Mapping Unit

The urban/developed mapping unit refers to areas that have been constructed on or otherwise physically altered to the point where vegetation is no longer present. Urban or developed areas are characterized by permanent or semi-permanent structures, hardscapes, and landscaped areas that require irrigation. This mapping unit also includes areas that lack vegetation such as paved roads or unimproved areas that still retain a pervious surface.

Within the study area, the urban/developed land cover includes 0.79 acres associated with Smith Grade, the main access road, the eastern and western access roads, and the existing Laguna Creek Diversion Facility (Facility) including the diversion flume, control building, and dam.

## 4.4.1.3 Special-Status Biological Resources

Special-status species include those plants and animals that have been formally listed or proposed for listing as endangered or threatened under either the state or federal Endangered Species Acts; candidates for either state or federal listing; species that meet the definition of rare or endangered under CEQA Guidelines Section 15380; animals on the CDFW's list of "species of special concern" and "special animals" list; plants listed as rare under the California Native Plant Protection Act or included in the California Native Plant Society (CNPS) California Rare Plant Ranks (CRPR) 1A, 1B, 2A, and 2B; plant species listed as having special status by CDFW; and raptors (e.g., eagles, hawks, and owls) and their nests protected under both the federal Migratory Bird Treaty Act and California Fish and Game Code (CFGC) Section 3513, as described in Section 4.4.2, Regulatory Framework. Section 4.4.3.2, Analytical Methods, describes the literature and data sources reviewed and the surveys conducted to identify the known and potential for occurrence of the identified special-status plant and wildlife species.

### Plants

Based on the results of the literature review and database searches, 57 special-status plant species were identified as potentially occurring within the region of the study area. Of these, three special-status plant species have a moderate potential to occur within the study area based on the soils, vegetation communities (habitat) present, elevation range, and previous known locations. These include tear drop moss (*Dacryophyllum falcifolium*), minute pocket moss (*Fissidens pauperculus*), and white-flowered rein orchid (*Piperia candida*). However, none were observed during surveys of the study area, and would have been detected if present. Table 4.4-1 summarizes special-status plant species potentially occurring within the study area. Additionally, there is no critical habitat designated by the U.S. Fish and Wildlife Service (USFWS) for listed plant species within the study area or within 10 miles (USFWS 2020).

Table 4.4-1. Special-Status Plant Species Potentially Occurring within the Study Area

| Species | Status[1] | Potential to Occur | Life Form | Primary Habitat Associations | Occurrence[2] |
|---|---|---|---|---|---|
| Tear drop moss (*Dacryophyllum falcifolium*) | CRPR 1B.3 | Moderate | Moss | Limestone substrates, damp coastal soil, and rock outcrops within north coast coniferous forest. | **Not observed** during January 2020 survey, and would have been detected if present. Nearest documented occurrence is on limestone rock above mixed coniferous forest in Henry Cowell Redwoods State Park. |
| Minute pocket moss (*Fissidens pauperculus*) | CRPR 1B.2 | Moderate | Moss | Damp soil along the coast, in dry streambeds, and on stream banks within north coast coniferous forest. | **Not observed** during January 2020 survey, and would have been detected if present. Nearest documented occurrence is along a trail edge on bare soil between mixed evergreen forest and grassland in upper University of California, Santa Cruz campus at four corners. |
| White-flowered rein orchid (*Piperia candida*) | CRPR 1B.2 | Moderate | Perennial herb (blooms May to September) | Broadleafed upland forest, lower montane coniferous forest, and north coast coniferous forest habitats occasionally on serpentine soils, and prefers forest duff, mossy streambanks, rock outcrops, and dry streambed microhabitats. | **Not observed** during January 2020 survey, and would have been detected if present. Nearest documented occurrence is along the streambank of Boulder Creek near Hesse Brook. |

Source: CDFW 2020, CNPS 2020 (see Appendix C).
Notes: CRPR = California Rare Plant Rank.
1 Species listed do not have federal or state status.
CRPR List 1B: Plants rare, threatened, or endangered in California and elsewhere
.2 Fairly endangered in California (20% to 80% of occurrences threatened)
.3 Not very endangered in California (less than 20% of occurrences threatened or no current threats known)
2 Although the study area provides potential habitat, the proposed work areas do not support suitable habitat for the tear drop moss, minute pocket moss, and white-flowered rein orchid.

## Wildlife

Based on the results of the literature review and database searches, 30 special-status wildlife species were identified as occurring within the vicinity of the study area. Of these species, one special-status wildlife species has a high potential to occur and two special-status wildlife species have a moderate potential to occur within the study area, based on vegetation communities (habitat) present and previous known locations. These species include California giant salamander (*Dicamptodon ensatus*), Santa Cruz black salamander (*Aneides flavipunctatus niger*), and San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), respectively. California giant salamander was incidentally observed within the study area during surveys conducted in January 2020. Table 4.4-2 summaries special-status wildlife species detected or potentially occurring within the study area.

## Table 4.4-2. Special-Status Wildlife Species Detected or Potentially Occurring within the Study Area

| Species | Status[1] | Potential to Occur | Life Form | Primary Habitat Associations | Occurrence[2] |
|---|---|---|---|---|---|
| Santa Cruz black salamander (*Aneides flavipunctatus niger*) | SSC | Moderate | Amphibian | Restricted to mesic deciduous or coniferous forests in the fog belt of outer Coast Range of San Mateo, Santa Cruz, and Santa Clara counties; occurs in moist streamside microhabitats and is typically found under rocks near streams, in talus, and under damp woody debris. | **Not observed** during January 2020 survey. Known to occur in the upper reaches of Laguna Creek, having been collected in 1979 in the vicinity of the Ice Cream Grade and Laguna Creek intersection. |
| California giant salamander (*Dicamptodon ensatus*) | SSC | High | Amphibian | Wet coastal forests near streams and seeps. Range is limited to Mendocino County, south to Monterey County and east to Napa County. Aquatic larvae are found in cold, clear streams and occasionally occur in lakes and ponds. Adults occur in wet forests under rocks and woody debris in the vicinity of streams or lakes. | **Observed** during January 2020 survey within the creekbed of Reggiardo Creek adjacent to the Laguna Creek confluence. |
| San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) | SSC | Moderate | Mammal | Forest habitats with moderate canopy and dense to moderate understories, particularly on the upper banks of riparian forests or within poison oak-dominated shrublands. Requires ample midden building materials to construct middens of shredded grass, leaves, or other materials. | **Not observed** during January 2020 survey. Known to occur along Smith Grade and was observed in 2006 near the intersection with Bonny Doon Road where multiple middens were observed primarily located in redwood forest and coyote brush scrub habitat. |

Source: CDFW 2019b, 2020b (see Appendix C).
Notes: SSC = California species of special concern.
[1] Species listed do not have federal status.

Two other special-status wildlife species have historic records and/or mapped habitat within the vicinity of the study area: California red-legged frog (CRLF) and anadromous fishes including steelhead (*Oncorhynchus mykiss irideus*) and coho salmon (*Oncorhynchus kisutch*). These species are discussed further below to explain why these species either do not occur in the study area (anadromous fishes) or have a low potential to occur in the study area (CRLF). Additionally, the study area is within USFWS-designated critical habitat for the CRLF, Unit SCZ-1 for Santa Cruz County (75 Federal Register [FR] 12815-12959; USFWS 2020).

### California Red-Legged Frog

The CLRF is a federally threatened species and a state species of special concern (SSC) (CDFW 2019b). It generally inhabits lowland streams, wetlands, riparian woodland, and livestock ponds. CRLFs require dense, shrubby, or emergent vegetation associated with deep, still or slow-moving water (CDFW 2020).

Based on a review of the California Natural Diversity Database (CNDDB) and other sources, no CRLF occurrences are known within the study area. The nearest CNDDB records are located approximately 1.2 to 1.6 miles southwest of the Facility. All of these records are from the Liddell Creek and East Branch of Liddell Creek (CDFW 2020). As stated above, the study area is within USFWS-designated CRLF critical habitat Unit SCZ-1 for Santa Cruz County (USFWS 2020).

The entire reach of Laguna Creek within the study area is characterized as a uniform, perennial drainage with an approximate 10-foot grade change at the dam (from 619 feet to 609 feet above mean sea level). Due to the geomorphological differences within Laguna Creek around the diversion dam, the evaluation of aquatic habitats for CRLF breeding and foraging suitability is presented in two segments: upstream of the dam and downstream of the dam.

In general, the upstream reach of Laguna Creek within the study area is characterized by an earthen, trapezoidal-shaped channel that ranged in width from 8 to 20 feet. A few large logs were observed in the creek; however, no instream, emergent vegetation was observed. The adjacent banks were steep with an 80% slope on the western side and 20% slope on the eastern side. The vegetation was dense with an average 70% canopy cover and little sunlight exposure. This reach of Laguna Creek supports low suitable foraging opportunities for CRLF on the eastern side of the channel due to accessible slope and presence of woody debris and downed logs, which could be used as refugia. However, the western bank is unlikely to support potential foraging habitat due to its steepness. No breeding habitat occurs within or near the creek due to the lack of in-channel or adjacent pools/ponds and the associated high surface water velocities during the breeding season. A small, in-channel pool occurs immediately northwest of the dam. Some large woody debris was present; however, no emergent vegetation occurred within the pool. No additional pools or depressions were observed within or adjacent to Laguna Creek above the dam. The pool may support some marginal, low-flow foraging habitat along the edges, but poor breeding habitat due to the associated high water velocities during the breeding season and lack of backwater habitats.

Immediately below the dam, the downstream reach of Laguna Creek within the study area is characterized by a large, in-channel pool that measures approximately 40 feet by 20 feet wide. The area is heavily shaded with a covered canopy, with little to no sunlight available. The banks are steep, approximately 80% to 90% grade on either side of the pool, and vegetation is sparse. Although the pool may offer some low-velocity edge water habitat for CRLF, there was no emergent or overhanging vegetation around the pool. The pool may support some low-flow foraging habitat along the edges, but offers poor breeding habitat because of the associated high water velocities during the breeding season and lack of backwater habitats. No emergent/aquatic vegetation was observed within the downstream section of the creek, and woody debris buildup was minimal. The banks were steep and rocky in this section, with a 60% to 80% grade throughout the downstream section of the creek within the study area. Given the lack of pools or depressions in this downstream section of Laguna Creek, and the expected high water velocities, CRLF breeding is not expected. CRLF foraging is unlikely given the steep, rocky gradients on both sides of the creek.

In addition to Laguna Creek, a small tributary that feeds into Laguna Creek further downstream of the Facility within the study area (Reggiardo Creek) was assessed for potential CRLF habitat components. Reggiardo Creek is a steep (30% grade), narrow, perennial creek (approximately 3 feet wide), that contains large rocks, boulders, and significant woody debris buildup. The banks of this creek are narrow and steep, and no pools, depressions, or

aquatic and emergent vegetation was observed within this creek. The steep, confined channel of Reggiardo Creek likely creates high velocity conditions during the winter and spring, and likely does not provide appropriate CRLF breeding or foraging habitat.

The potential for upland refugia immediately surrounding the project site is considered low due to the presence of downed redwood logs and debris, redwood duff and vegetation. However, no mammal burrows (which can serve as habitat for CRLF) were observed anywhere within the study area.

#### Steelhead and Coho Salmon

The federally and state endangered Central California Coast Evolutionarily Significant Unit of coho salmon (*Oncorhynchus kisutch* pop. 4) occurs in streams of the north coast of Santa Cruz County. The federally threatened Central California Coast Distinct Population Segment of steelhead (*Oncorhynchus mykiss irideus* pop. 8) also occurs in streams along the coast of Santa Cruz County. Laguna Creek lagoon, which is located approximately 4 miles downstream of the Facility, supports both of these species, with coho salmon observed in the lower Laguna Creek lagoon in 2015 and steelhead observed in the lower Laguna Creek lagoon as recently as 2018 (Berry et. al 2019). The study area, however, is not expected to support either of these species due to a large bedrock waterfall that serves as a natural barrier to anadromy approximately 1.4 miles upstream of the ocean, which precludes anadromous fish from traveling further upstream (Hagar et al. 2017). Resident rainbow trout are known to occur both upstream and downstream of the Facility within Laguna Creek, and the Santa Cruz Water Department has conducted annual abundance surveys in the stream reaches downstream and upstream of the dam since 2006, measuring the fluctuations of the separated populations of rainbow trout (City of Santa Cruz 2020).

### Jurisdictional Aquatic Resources

As further described in Section 4.4.3.2, Analytical Methods, an aquatic resources jurisdictional delineation was conducted of the project site to identify potential jurisdictional aquatic resources, including wetlands, streams, and creeks, among other aquatic features, that are regulated by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife, and/or California Coastal Commission (CCC). Jurisdictional aquatic resources mapped within the project site included one perennial drainage, Laguna Creek. Laguna Creek is a natural drainage that originates in the Santa Cruz Mountains near Pine Flat Road in Bonny Doon and drains to the Pacific Ocean. The mainstem and active channel of the drainage (including the ordinary high water mark) run through the center of the project site. This natural perennial drainage is characterized by a redwood forest alliance vegetation community and supports a clearly defined bed and bank, as well as has connectivity to downstream receiving waters (Pacific Ocean). The study area is within the coastal zone as defined by the California Coastal Act (discussed in Section 4.4.2, Regulatory Framework, below). Figure 4.4-1 illustrates the location and extent of jurisdictional aquatic resources within the study area.

The USACE/RWQCB/CDFW jurisdictional width encompassed the lateral extent of Laguna Creek's ordinary high water mark within the survey area and ranged in width from 17 to 60 feet. The CDFW and RWQCB-only jurisdictional width also encompasses the lateral extent of the Laguna Creek's top-of-bank within the survey area and ranged from 40 to 110 feet. A total of 0.29 acres of USACE jurisdictional non-wetland waters of the United States occur within the project site, and a total of 0.65 acres of RWQCB and CDFW jurisdictional non-wetland waters of the state occur within the project site. No state- or federally defined wetlands occur within the project site.

#### Wildlife Corridors/Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as steppingstones for dispersal.

Laguna Creek, between its headwaters and coastal terminus, may serve as a local movement corridor that connects habitat for certain amphibians, reptiles, and localized fish species. However, the study area is not recognized as an important regional wildlife corridor by any state agency or jurisdiction, and is not considered critical to the ecological functioning of adjoining watersheds and open space areas. The most obstructive aspect of the Facility for aquatic-dependent species is the dam across Laguna Creek that has been present since 1890, which effectively separates the upstream and downstream portions of the creek for strictly aquatic organisms. This barrier to aquatic-dependent species is one of several natural and artificial barriers within Laguna Creek. As described above, there is a bedrock waterfall barrier to anadromy approximately 1.4 miles upstream of the ocean within Laguna Creek that prevents anadromous steelhead and coho salmon from traveling further upstream to the study area (Hagar et al. 2017), so the existing Facility does not pose a barrier to movement to anadromous fishes. However, the rest of the Facility is non-intrusive and does not pose an obstruction to habitat connectivity or wildlife movement.

### 4.4.1.4 Sudden Oak Death

Sudden Oak Death is a tree disease caused by the fungus-like plant pathogen *Phytophthora ramorum* affecting oak species (primarily coast live oak [*Quercus agrifolia*]), tanoak (*Notholithocarpus densiflorus*), and California bay (*Umbellularia californica*) trees. Host species include many found within the project site, including, but not limited to, redwood (*Sequoia sempervirens*), bigleaf maple (*Acer macrophyllum*), madrone (*Arbutus menziesii*), and Douglas-fir (*Pseudotsuga menziesii* var. *menziesii*). Pitch canker is a disease of pine trees that is caused by the fungus *Fusarium circinatum*. Douglas-fir can also be infected, but this disease primarily affects Monterey pine (*Pinus radiata*) trees. As described below in Section 4.4.2, Regulatory Framework, the project site is located within the Sudden Oak Death Zone of Infestation and the "Regulated Area" for Sudden Oak Death, as designated by the California Department of Food and Agriculture.

## 4.4.2 Regulatory Framework

### 4.4.2.1 Federal

#### Clean Water Act

The Federal Water Pollution Control Act of 1972 (Clean Water Act) (33 United States Code Section 1251 et seq.), as amended by the Water Quality Act of 1987 (PL 100-4), is the major federal legislation governing water quality. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Discharges into waters of the United States are regulated under Section 404. Waters of the

United States include (1) all navigable waters (including all waters subject to the ebb and flow of tides); (2) all interstate waters and wetlands; (3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, and natural ponds; (4) all impoundments of waters mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters mentioned above. In California, the State Water Resources Control Board and the RWQCBs are responsible for implementing the Clean Water Act. Important applicable sections of the Clean Water Act are as follows:

- Section 401 requires an applicant for any federal permit for an activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the Clean Water Act. Certification is provided by the respective RWQCB.
- Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. The National Pollutant Discharge Elimination System program is administered by the RWQCB. Conformance with Section 402 is typically addressed in conjunction with water quality certification under Section 401.
- Section 404 provides for issuance of dredge/fill permits by USACE. Permits typically include conditions to minimize impacts on water quality. Common conditions include (1) USACE review and approval of sediment quality analysis before dredging, (2) a detailed pre- and post-construction monitoring plan that includes disposal site monitoring, and (3) required compensation for loss of waters of the United States.

### Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 United States Code Section 1531 et seq.), as amended, is administered by USFWS for most plant and animal species and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and to provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under FESA, it is unlawful to take any listed species; "take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." As part of this regulatory act, FESA provides for designation of critical habitat, defined in FESA Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features "essential to the conservation of the species" are found and that "may require special management considerations or protection." Critical habitat may also include areas outside the current geographical area occupied by the species that are nonetheless "essential for the conservation of the species." Critical habitat designations identify with the best available knowledge, those biological and physical features (primary constituent elements) which provide for the life history processes essential to the conservation of the species.

FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on public or private property without any other federal agency involvement.

The study area occurs within USFWS-designated California red-legged frog critical habitat Unit SCZ-1 for Santa Cruz County (75 FR 12815-12959; USFWS 2020). According to USFWS, the following items are the primary constituent elements identified for California red-legged frog (75 FR 12815-12959):

1. **Aquatic Breeding Habitat.** Standing bodies of fresh water (with salinities less than 4.5 parts per thousand), including natural and manmade (e.g., stock) ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years.
2. **Aquatic Non-Breeding Habitat.** Freshwater pond and stream habitats, as described above, that may not hold water long enough for the species to complete its aquatic life cycle but which provide for shelter, foraging, predator avoidance, and aquatic dispersal of juvenile and adult California red-legged frogs. Other wetland habitats considered to meet these criteria include, but are not limited to: plunge pools within intermittent creeks, seeps, quiet water refugia within streams during high water flows, and springs of sufficient flow to withstand short-term dry periods.
3. **Upland Habitat.** Upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of 1 mile (1.6 kilometers) in most cases (i.e., depending on surrounding landscape and dispersal barriers) including various vegetation types such as grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance for the California red-legged frog. Upland features are also essential in that they are needed to maintain the hydrologic, geographic, topographic, ecological, and edaphic features that support and surround the aquatic, wetland, or riparian habitat. These upland features contribute to: (1) filling of aquatic, wetland, or riparian habitats; (2) maintaining suitable periods of pool inundation for larval frogs and their food sources; and (3) providing non-breeding, feeding, and sheltering habitat for juvenile and adult frogs (e.g., shelter, shade, moisture, cooler temperatures, a prey base, foraging opportunities, and areas for predator avoidance). Upland habitat should include structural features such as boulders, rocks and organic debris (e.g., downed trees, logs), small mammal burrows, or moist leaf litter.
4. **Dispersal Habitat.** Accessible upland or riparian habitat within and between occupied or previously occupied sites that are located within 1 mile (1.6 kilometers) of each other, and that support movement between such sites. Dispersal habitat includes various natural habitats, and altered habitats such as agricultural fields, that do not contain barriers (e.g., heavily traveled roads without bridges or culverts) to dispersal. Dispersal habitat does not include moderate- to high-density urban or industrial developments with large expanses of asphalt or concrete, nor does it include large lakes or reservoirs over 50 acres (20 hectares) in size, or other areas that do not contain those features identified in primary constituent elements 1, 2, or 3 as essential to the conservation of the species.

### Migratory Bird Treaty Act

The Migratory Bird Treaty Act was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. The Migratory Bird Treaty Act protects over 800 species of birds (including their parts, eggs, and nests) from killing, hunting, pursuing, capturing, selling, and shipping unless expressly authorized or permitted.

## 4.4.2.2 State

### California Environmental Quality Act

CEQA requires identification of a project's potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. The act also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors" (14 California Code of Regulations [CCR] Section 15380[b][1]). A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

CDFW has developed a list of "special status species" as "a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status." This is a broader list than those species that are protected under FESA, the California Endangered Species Act (CESA), and other CFGC provisions, and includes lists developed by other organizations, such as the Audubon Watch List Species. Guidance documents prepared by other agencies, including the Bureau of Land Management Sensitive Species and USFWS Birds of Special Concern, are also included on this CDFW Special Species list. Additionally, CDFW has concluded that plant species included on the CNPS CRPR List 1 and 2 are covered by CEQA Guidelines Section 15380.

CEQA Guidelines Section IV, Appendix G (Environmental Checklist Form), requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service" (14 CCR Section 15000 et seq.).

## California Endangered Species Act

CESA (CFGC Section 2050 et seq.) provides protection and prohibits the take of plant, fish, and wildlife species listed by the State of California. Unlike FESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by the project applicant from the CDFW under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, project applicants consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

## California Fish and Game Code

### Fully Protected Species

The classification of "fully protected" was the state's initial effort in the 1960s to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles, birds, and mammals. Fully protected species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. "Take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

### Lake or Streambed Alteration

Under the CFGC Section 1602, CDFW has authority to regulate work that will substantially divert or obstruct the natural flow of or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake. CDFW also has authority to regulate work that will deposit or dispose of debris, water, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to any person, state, or local governmental agency or public utility (CFGC Section 1601). CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. In practice, CDFW marks its jurisdictional limit at the top of the stream or lake bank or the outer edge of the riparian vegetation, where present, and sometimes extends its jurisdiction to the edge of the 100-year floodplain. Because riparian habitats do not always support wetland hydrology or hydric soils, wetland boundaries, as defined by Clean Water Act Section 404, sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Therefore, jurisdictional boundaries under Section 1602 may encompass a greater area than those regulated under Clean Water Act Section 404; CDFW does not have jurisdiction over ocean or shoreline resources.

### California Fish and Game Code Sections 3503, 3511, 3513, 4150

CFGC Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. CFGC Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3511 states fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act. All nongame mammals, including bats, are protected by CFGC Section 4150.

## Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act established the State Water Resources Control Board and RWQCB as the principal state agencies responsible for the protection of water quality in California. The Central Coast Regional Water Quality Control Board (RWQCB) has regulatory authority over the project site. The Porter-Cologne Water Quality Control Act provides that "All discharges of waste into the waters of the state are privileges, not rights." Waters of the State are defined in Section 13050(e) of the Porter-Cologne Water Quality Control Act as "…any surface water or groundwater, including saline waters, within the boundaries of the state." All dischargers are subject to regulation under the Porter-Cologne Water Quality Control Act, including both point and nonpoint source dischargers. The Central Coast RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction. As noted above, the Central Coast RWQCB is the appointed authority for Section 401 compliance in the project site.

## California Native Plant Protection Act

The California Native Plant Protection Act of 1977 directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take. CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the CFGC. To align with federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals

into the act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in CESA, appropriate compensatory mitigation measures for significant impacts to rare plants are typically negotiated with the CDFW.

### California Coastal Act

In 1976, the State Legislature enacted the California Coastal Act (Public Resources Code [PRC] Section 30000 et seq.) to provide long-term protection of the state's 1,100-mile coastline for the benefit of current and future generations. The California Coastal Act provides for the management of lands within California's coastal zone boundary, as established by the Legislature and defined in California Coastal Act (Section 30103). The boundary of the coastal zone varies across the state and each location varies in width from several hundred feet in highly urbanized areas up to 5 miles in certain rural areas (CCC 2020). The coastal boundary extends approximately three miles offshore. The goals of the California Coastal Act, per PRC Section 30001.5 are:

- Protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
- Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sounds resources conservation principles and constitutionally protected rights of private property owners.
- Assure priority for coastal-dependent and coastal-related development over other development on the coast.
- Encourage state and local initiative and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

Furthermore, the California Coastal Act includes specific policies to achieve these goals within the coastal zone (see Division 20 of the PRC). These policies include the legal standards applied to coastal planning and regulatory decisions made by the CCC in pursuant to the California Coastal Act. The California Coastal Act requires that individual jurisdictions adopt a Local Coastal Program (LCP) to implement the California Coastal Act at the local level. After the CCC certifies the LCP, and the local government becomes the coastal development permit permitting authority. See below for information about the County's LCP.

### California Government Code – Local Exemptions

California Government Code Section 53091 (d) and (e) provides that facilities for the production, generation, storage, treatment, and transmissions of water supplies are exempt from local (i.e., county and city) building and zoning ordinances. The Proposed Project evaluated in this report relate to operation, utilization, and storage of water resources, therefore, the Proposed Project is legally exempt from Santa Cruz County building and zoning ordinances.

### California Public Resources Code – Timberland and Forest Land

PRC Section 4526 defines "Timberland" to mean "land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees." While the project site is not used for growing timber for commercial purposes, the definition of timber under PRC Section 4526 is broad enough to include areas where commercial species of trees such as coast redwoods grow.

Furthermore, the project site is zoned Timber Production by Santa Cruz County. PRC Section 12220(g) defines forest land as "land that can support 10% native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." The redwood forest at the project would be considered forestland.

### California Government Code – Timberland Production

The California Government Code includes definitions applicable to timber production and timber harvest, including the following:

- Section 51104(g) defines "timberland production zone" (TPZ[1]) to mean an area that has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses as defined under Section 51104(h).
- Section 51112 identifies situations that would warrant a decision that a parcel is not devoted to and used for growing and harvesting timber or for growing and harvesting timber and compatible uses.
- Section 51113 allows the opportunity for a landowner to petition that his or her land be zoned for timberland production.

### California Timberland Productivity Act of 1982

The California Timberland Productivity Act (California Government Code Section 51100 et seq.) establishes the statewide basis for timberland production zoning. A county may zone lands for timberland production and thereby qualify the landowner for the preferential taxation provided for under the Forest Taxation Reform Act. Land within a TPZ is restricted to growing and harvesting timber and other compatible uses approved by the county. The use of this land must be "enforceably restricted" to growing and harvesting timber in order to qualify for preferential taxation.

### Z'berg-Nejedly Forest Practice Act

Commercial harvesting of timber on non-federal lands in California, whether or not the property is under timberland contract, is regulated under the state's Z'berg-Nejedly Forest Practice Act (PRC Section 4511 et seq.) and the related Forest Practice Rules (14 CCR Chapters 4, 4.5, and 10). Through this legislation, the state has established a comprehensive and specialized program for reviewing and regulating the harvesting of timber. Harvest is strictly regulated through the review and approval of plans (e.g., Timber Harvesting Plan) by CAL FIRE. An approved Timber Harvesting Plan would be required prior to timber operations (as defined in Section 4527 of the Act) conducted in support of project-related activities.

### California Department of Food and Agriculture Sudden Oak Death Zone of Infestation

The project site is located within the Sudden Oak Death Zone of Infestation and the "Regulated Area" for Sudden Oak Death, as designated by the California Department of Food and Agriculture (3 CCR Section 3700). This designation requires a permit from the County Agricultural Commissioner prior to the movement of regulated plant material from the regulated area. The project site is also located within the Pitch Canker Zone of Infestation. PRC Article 5, Sections 4712-4718 outlines the authority of the California Board of Forestry to designate a Zone of

[1] TPZ is used to represent "Timberland Production Zone" and "Timberland Preserve Zone" interchangeably in California Government Code Section 51110. Both terms are intended to represent land zoned for the purposes of growing and harvesting timber. TPZ used in this chapter refers to land with such zoning.

Infestation associated with forest pests. The PRC requires timberland owners to eradicate such pests and outlines the authority of the Board to take such actions within a designated Zone of Infestation. Since the City is not the landowner, it would not be responsible for pest eradication.

### 4.4.2.3 Local

#### County of Santa Cruz General Plan and Local Coastal Program

The County of Santa Cruz General Plan and LCP is a comprehensive, long-term planning document for the unincorporated areas of the County and includes the County's LCP, which was certified by the California Coastal Commission in 1994 (County of Santa Cruz 2020a). The County General Plan and LCP provides policies and programs to establish guidelines for future growth and all types of physical developments.

The County's General Plan and LCP, Chapter 5 (Conservation and Open Space), Objective 5.2 (Riparian Corridors and Wetlands), establishes definitions for riparian corridors and wetlands to ensure their protection. Policies 5.2.1 through 5.2.5 identify and define riparian corridors and wetlands, determine the uses which are allowed in and adjacent to these habitats, and specify required buffer setbacks and performance standards for land in and adjacent to these areas. Riparian corridors are defined as (a) 50 feet from the top of a distinct channel or physical evidence of high water mark of perennial stream; (b) 30 feet from the top of a distinct channel or physical evidence of high water mark of an intermittent stream as designated on the General Plan maps and through field inspection of undesignated intermittent and ephemeral streams; (c) 100 feet of the high water mark of a lake, wetland, estuary, lagoon, or natural body of standing water; (d) the landward limit of a riparian woodland plant community; and (e) wooded arroyos within urban areas. The County definitions are consistent with those used for CEQA purposes.

The County's General Plan and LCP, Chapter 5 (Conservation and Open Space), Objective 5.1 (Biological Diversity), establishes definitions for sensitive habitats to ensure their protection. Policies 5.1.1 through 5.1.11 identify and define sensitive habitats, determine the uses which are allowed in and adjacent to these habitats, and specify performance standards for land in and adjacent to these areas.

The County's General Plan and LCP, Chapter 5 (Conservation and Open Space), Objective 5.12 (Timber Resources), describes lands to be designated for timber production to encourage economic production of forest products on a sustained yield basis under high environmental standards. Policies 5.12.1 through 5.12.14 identify and define permitted and conditional uses in timber production zones and specify performance standards for land in and adjacent to these areas.

The County's certified LCP is administered by the County Planning Department, pursuant to the California Coastal Act, and includes specific plans and ordinances for activities within the coastal zone. The LCP implementing ordinances in the Santa Cruz County Code (SCCC) that are relevant in the evaluation of biological resources of the Proposed Project include the following:

- County Grading Ordinance (Chapter 16.20)
- Erosion Control Ordinance (Chapter 16.22)
- Riparian Corridor and Wetlands Protection (Chapter 16.30)
- Sensitive Habitat Protection (Chapter 16.32)
- Significant Trees Protection (Chapter 16.34)
- Timber Harvesting Regulations (Chapter 16.52)

As the Proposed Project occurs within the coastal zone and is not exempt from the LCP, it would require compliance with the LCP and the standards contained in the above LCP implementing ordinances. While some of these ordinances require separate approvals or permits (e.g., Riparian Exception), such approvals are not required for the Proposed Project, as it falls under California Government Code Section 53091 (d) and (e) and is legally exempt from Santa Cruz County building and zoning ordinances, as described above. The relevant LCP implementing ordinances that are addressed through the CDP process are described below.

### Grading and Erosion Control Ordinances

Chapter 16.20, Grading Regulations, sets forth rules and regulations to control all grading, including excavations, earthwork, road construction, dredging, diking, fills and embankments. Chapter 16.22 requires control of all existing and potential conditions of accelerated (human-induced) erosion; sets forth required provisions for project planning, preparation of erosion control plans, runoff control, land clearing, and winter operations.

### Riparian Corridor Protection Ordinance

Chapter 16.30, Riparian Corridor and Wetlands Protection, includes regulations to limit development activities in riparian corridors. The regulations provide that "no project shall undergo developmental activities in riparian corridors or areas with urban or rural service lines which are within a buffer zone as measured from the top of the arroyo." Buffer areas are specified in the regulations and shall be determined from characteristics found in the riparian area, including average slope within 30 feet of water's edge, vegetation, and stream characteristics. The buffer shall always extend 50 feet from the edge of riparian woodland and 20 feet beyond the edge of other woody vegetation as determined by the dripline. After the buffer is determined, a 10-foot setback from the edge of the buffer is required for all structures, which allows construction equipment and use of yard area. Exceptions and conditioned exceptions to the provisions of the chapter may be authorized. Findings meeting the following criteria define the circumstances necessary in granting an exception to the above requirements:

1. That there are special circumstances or condition affecting the property.
2. That the exception is necessary for the proper design and function of some permitted or existing activity on the property.
3. That the granting of the exception will not be detrimental to the public welfare or injurious to other property downstream or in the area in which the project is located.
4. That the granting of the exception, in the coastal zone, will not reduce or adversely impact the riparian corridor, and there is no feasible less environmentally damaging alternative.
5. That the granting of the exception is in accordance with the purpose of this chapter, and with the objectives of the General Plan and elements thereof, and the LCP Land Use Plan.

### Sensitive Habitats Protection Ordinance

SCCC Chapter 16.32 regulates development in or adjacent to specified environmentally sensitive habitat areas. An area is defined as "sensitive habitat" under this ordinance includes various criteria, and includes all lakes, wetlands, estuaries, lagoons, streams, rivers, and riparian corridors. No development activity may occur within an area of biotic concern unless approval is issued or unless the activity is reviewed concurrently with the review of an associated development of land-division application. All development within environmentally sensitive habitat must be mitigated or restored. The following findings are necessary in granting an exception to the provisions and requirements of this ordinance:

1. That adequate measures will be taken to ensure consistency with the purpose of this chapter to minimize the disturbance of sensitive habitats; and
2. One of the following situations exists:
   a. The exception is necessary for restoration of a sensitive habitat; or
   b. It can be demonstrated by biotic assessment, biotic report, or other technical information that the exception is necessary to protect public health, safety, or welfare.

Any development activity that has received a riparian exception according to the provisions of Chapter 16.30 would not likely be subject to this chapter according Chapter 16.32.105, if the Planning Director determines that the Proposed Project received an equivalent review in granting a riparian exception.

### Significant Trees Protection Ordinance

Chapter 16.34 regulates the removal of trees in the coastal zone, which could reduce scenic beauty and the attractiveness of the area to residents and visitors. The ordinance establishes the type of trees to be protected, the circumstances under which they may be removed, and the procedures for obtaining a permit for their removal. This chapter defines Significant Trees (Section 16.34.030) as:

> "any tree, sprout clump, or group of trees, as follows:
>
> (A) Within the urban services line or rural services line, any tree which is equal to or greater than 20 inches d.b.h. (approximately five feet in circumference); any sprout clump of five or more stems each of which is greater than 12 inches d.b.h. (approximately three feet in circumference); or any group consisting of five or more trees on one parcel, each of which is greater than 12 inches d.b.h. (approximately three feet in circumference).
>
> (B) Outside the urban services line or rural services line, where visible from a scenic road, any beach, or within a designated scenic resource area, any tree which is equal to or greater than 40 inches d.b.h. (approximately 10 feet in circumference); any sprout clump of five or more stems, each of which is greater than 20 inches d.b.h. (approximately five feet in circumference); or, any group consisting of 10 or more trees on one parcel, each greater than 20 inches d.b.h. (approximately five feet in circumference).
>
> (C) Any tree located in a sensitive habitat as defined in Chapter 16.32 SCCC. Also see SCCC 16.34.090(C), exemption of projects with other permits."

A tree removal permit would not be required for the Proposed Project, as tree removal would be authorized under the County's coastal zone regulations. Specifically, the coastal development permit application shall address removal of any significant tree located within the coastal zone. The site plan submitted with the application shall include the Tree Inventory, Impact Assessment and Protection Plan (Fouts 2020), which identifies the trees to be removed, a description of the species, size, and condition of the tree(s) to be removed, a description of the method to be used in removing the tree(s), the reason(s) for removal of the tree(s), and proposed visual impact mitigation measures, including identification of the size, location, and species of replacement trees on a site plan (if necessary).

### Timber Harvesting Regulations

The project site is zoned Timber Production by Santa Cruz County. SCCC Chapter 16.52 establishes the definitions and procedures to protect and maintain the timberlands through regulation of timber harvesting. The regulations encourage the continued production of forest products in compliance with performance standards, which emphasize protection of environmental and open space values while fostering increased productivity of forest land. This regulation also serves to protect, maintain and improve the forest land of Santa Cruz County. This zoning designation is consistent with the zoning mandates of the California Timberland Productivity Act of 1982 described above. The ordinance restricts timber harvesting to specified zone districts within the County and requires development of a timber harvest plan, timberland conversion permit, or conversion exemption prior to the cutting of any commercial tree species. The Proposed Project would require a minor conversion permit exemption from CAL FIRE, which is consistent with SCCC Chapter 16.52.195 that addresses minor conversions.

## 4.4.3 Impacts and Mitigation Measures

This section contains the evaluation of potential environmental impacts associated with the Proposed Project related to biological resources. The section identifies the standards of significance used in evaluating the impacts, describes the methods used in conducting the analysis, and evaluates the Proposed Project's impacts and contribution to significant cumulative impacts, if any are identified.

### 4.4.3.1 Thresholds of Significance

The standards of significance used to evaluate the impacts of the Proposed Project related to biological resources are based on Appendix G of the CEQA Guidelines, as listed below. A significant impact would occur if the Proposed Project would:

A. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

B. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

C. Have a substantial adverse effect on state or federally protected wetlands, (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

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.

E. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance.

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.

### 4.4.3.2 Analytical Methods

Data regarding biological resources present within the study area were obtained through a review of pertinent literature, field reconnaissance, an aquatic resources jurisdictional delineation, and habitat assessments, which are described further below.

Potential impacts to biological resources in the study area were evaluated based on a review of the available literature regarding the status and known distribution of the special-status species or their habitat within the project site and surrounding areas. Literature and data sources reviewed to determine the occurrence or potential for occurrence of special-status species in the study area include: the County of Santa Cruz online geographic information system (GIS) database (County of Santa Cruz 2020b), CNDDB (CDFW 2020), USFWS Inventory for Planning and Conservation (IPaC) database (USFWS 2020), CNPS Inventory of Rare and Endangered Plants data (CNPS Inventory) (CNPS 2020), and U.S. Department of Agriculture Web Soil Survey (USDA 2020). The CNPS Inventory and CNDDB were queried based on the U.S. Geological Survey 7.5-minute quadrangle in which the study area is located (Davenport) and the six surrounding quadrangles (Santa Cruz, Felton, Año Nuevo, Castle Rock Ridge, Big Basin, and Franklin Point). The IPaC databases was queried using GIS software based on a 1-mile buffer around the study area.

Once all data sources were reviewed, a final list of special-status species with moderate or greater potential to occur in the vicinity of the project area was compiled (see Table 4.4-1 and Table 4.4-2 in Section 4.4.1.3, Special-Status Biological Resources), and each of the species was evaluated for presence or absence on the site. In addition, the presence of suitable habitat characteristics was evaluated based on all data sources and site surveys. Qualified biologists conducted a biological resources reconnaissance survey, vegetation mapping, and a formal CRLF habitat assessment within the study area on January 14, 2020. Focused, USFWS-protocol-level surveys were not warranted for CRLF. During this site visit, the site's potential to support sensitive natural communities and special-status plant and wildlife species was evaluated. Also on January 14, 2020, an aquatic resources jurisdictional delineation was conducted within the project site to investigate and delineate potential waters of the United States, including wetlands under USACE jurisdiction, pursuant to Section 404 of the federal Clean Water Act; and waters of the state under RWQCB jurisdiction, pursuant to the Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act and CDFW jurisdiction, pursuant to Section 1602 of the CFGC (Dudek 2020). Table 4.4-3 outlines the type, location, and dates for each of these surveys. Additional detail on survey methods is provided in Appendix C.

**Table 4.4-3. Biological Surveys Completed within the Study Area**

| Survey Type | Location | Date |
|---|---|---|
| Biological reconnaissance survey, vegetation mapping, general habitat assessments | Study area | January 14, 2020 |
| CRLF habitat assessment | Project site, plus 1-mile buffer | January 14, 2020 |
| Aquatic resources jurisdictional delineation | Project site | January 14, 2020 |

Source: Appendix C.
Notes: CRLF = California red-legged frog.

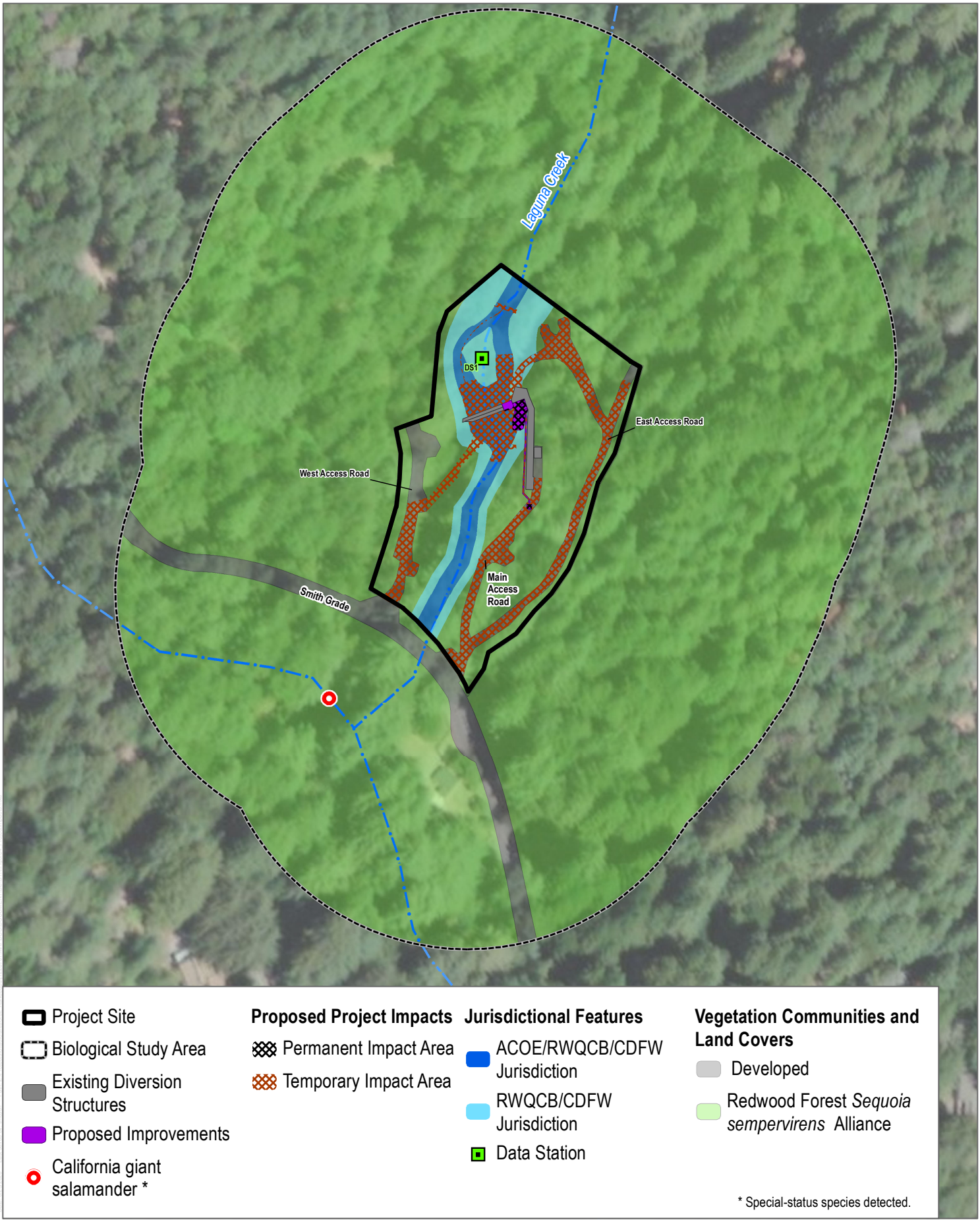
The impact analysis presented below focuses on temporary construction-related impacts and permanent impacts due to the placement of a Coanda screen and new intake structure, a new concrete control vault to house new control values and additional diversion piping, downstream streambank stabilization, new access and safety provisions including stairways, and a drop inlet at the interconnection of the new diversion pipe and the existing Laguna Pipeline. Figure 4.4-2 shows the general location of direct biological resources impact areas that would occur within the project site. The new concrete control vault, access stairways, and streambank stabilization would be located within a small segment of the wetted and top-of-bank portions of Laguna Creek, just downstream of the existing intake screen. The bulk of temporary impacts during construction would be limited to the use of the existing unimproved access routes; however, additional grading beyond the limits of both western and eastern access routes would be necessary to adequately access the upstream and downstream dam areas. Installation of a new diversion pipeline adjacent to the existing diversion flume, temporary dewatering of the work area with downstream and upstream cofferdam installation, diversion of Laguna Creek flows past the active work area, minor channel grading, and sediment removal upstream and downstream of the dam would also contribute to construction-related temporary impacts within the project site, as shown on Figure 4.4-2. Access road improvements are also proposed as a part of project implementation.

The operations and maintenance activities would generally remain similar to existing operations and maintenance activities, which are conducted weekly, monthly, and annually. However, unlike existing conditions, the Proposed Project would not require periodic sediment removal from behind the dam. Additionally, it is anticipated that the operations and maintenance activities would also occur with a similar frequency and intensity of activities under existing conditions.

The City would continue to maintain in-stream flow levels established with CDFW pursuant to ongoing agreements and ultimately would maintain the in-stream flow levels established by the Anadromous Salmonid Habitat Conservation Plan that is currently under preparation and by the Santa Cruz Water Rights Project that is being pursued by the City. As described above, these in-stream flows are intended to protect anadromous salmonids and other species.

Future operations and maintenance activities would result in reduced long-term impacts to biological resources as compared to current conditions due to better management of diversions and required downstream flows. Specifically, the Proposed Project would result in improved in-stream transport of sediment by changing the format and orientation of water intake so sediment would not obstruct water intake and be able to pass downstream unimpeded, particularly during high stream flows similar to how sediment transport would occur in a more natural system. While federally or state-listed anadromous fish species are not expected to occur in the project area due to several downstream natural barriers (Hagar et al. 2017), Laguna Creek does contain resident rainbow trout populations, and therefore appropriate fish screening would be implemented by the Proposed Project. Finally, the Proposed Project would provide better remote controls of diversions to improve the regulation of downstream water levels so that fish and other aquatic organisms would not be stranded by rapid changes in water levels when the City diverts Laguna Creek and maintains the water intake.

Therefore, the impact analysis below focuses on the construction phase of the Proposed Project (and not operations and maintenance) in relation to the project site, given that operations and maintenance activities would have beneficial impacts on biological resources, as indicated above.




SOURCE: Santa Cruz County 2016, ESRI 2020

DUDEK

0 75 150 Feet

**FIGURE 4.4-2**

Biological Resource Impacts

Laguna Creek Diversion Retrofit Project - EIR

### 4.4.3.3 Project Impact Analysis

#### Areas of No Impact

The Proposed Project would not **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 Standard F)**. The Proposed Project is not located within any adopted habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plan. Therefore, the Proposed Project would have no impact related to conflicts with any such plans and this standard is not further evaluated.

#### Impacts

This section provides a detailed evaluation of biological resources impacts associated with the Proposed Project.

**Impact BIO-1: Special-Status Species (Significance Standard A).** The Proposed Project could have a substantial adverse effect on special-status species during construction. ***(Less than Significant with Mitigation)***

**Plants**

Potential direct temporary and permanent impacts could occur to three special-status plant species that have moderate potential to occur within the study area: tear drop moss, minute pocket moss, and white-flowered rein orchid. During construction, these impacts could result from grading activities to establish temporary access and construction work areas, as well as installation of a new concrete control vault/stairway and bank stabilization. However, these special-status plant species were not detected during field surveys and are unlikely to occur within the project footprint (i.e., along the existing unimproved roadways or within the streambed of Laguna Creek), as the specific area does not support suitable habitat for these species. Additionally, even if present, loss of individuals or the habitat of these species would not threaten their regional populations as a result of the Proposed Project. Therefore, the temporary and permanent direct impacts to special-status plant species would be less than significant during construction.

While special-status plant species are unlikely to occur within the project footprint, construction-related erosion, runoff, and dust could indirectly impact any potentially occurring special-status plant species outside the immediate work areas, but within the study area. Given the temporary nature of these construction-related indirect impacts and the implementation of Standard Construction Practices listed in Section 3.6.3, Standard Construction Practices, potential impacts would be less than significant. Specifically, the City would implement the following to avoid and minimize effects to special-status plant species: install erosion control best management practices (Standard Construction Practice #1), provide stockpile containment and exposed soil stabilizing structures (Standard Construction Practice #2), provide runoff control devices (Standard Construction Practice #3), provide wind erosion controls (Standard Construction Practice #4), located and stabilize spoil disposal sites (Standard Construction Practice #5), restore temporarily disturbed natural communities/areas by replanting with natives (Standard Construction Practice #14), and conduct a training-education session for project construction personnel (Standard Construction Practice #16). Overall, both potential direct and indirect impacts to special-status plants related to construction would be less than significant.

Impacts to special-status plant species would not result from operation and maintenance activities as such activities would not entail vegetation removal. Therefore, operations of the Proposed Project would result in no impacts to special-status plants.

### Wildlife

During construction, potential direct temporary and permanent impacts resulting from grading activities to establish temporary access and construction work areas, as well as installation of a new concrete control vault/stairway and bank stabilization, could result in significant impacts to some special-status wildlife species. Short-term, indirect impacts to special-status wildlife resulting from increased human presence and noise generated during construction activities could also result in significant impacts to special-status wildlife species.

Santa Cruz Black Salamander, California Giant Salamander, and San Francisco Dusky-Footed Woodrat. As described above in Table 4.4-2, these three special-status wildlife species would have a moderate to high potential to occur within the project site. A total of 0.14 acres of temporary impacts and 0.01 acres of permanent impacts to potential habitat for these species would be affected during construction-related ground disturbance. Construction-related activities could have a substantial adverse effect on these species, if present. The impact of the Proposed Project on these species would be potentially significant.

Nesting Birds and Roosting Bats. The study area contains suitable nesting habitat for ground and tree-nesting bird species and roosting bats, particularly within the riparian areas associated with Laguna Creek and the undeveloped lands surrounding the project site. Construction-related activities that occur within the general nesting season (February through August) could result in a substantial adverse effect to nesting birds. Construction activities that could result in direct impacts to nesting birds and roosting bats include vegetation and tree removal during grading activities. Indirect impacts to nesting birds and roosting bats that could occur during construction include an increase in human activity, construction noise, and dust in the immediate vicinity of an active nest that could result in significant harassment and nest abandonment, causing loss of the nest. Therefore, the impact of the Proposed Project on nesting birds and roosting bats would be potentially significant.

California Red-Legged Frog. The project site occurs within federally designated critical habitat for the CRLF. Based on the focused habitat assessment conducted for the CRLF, the study area does not support the primary constituent elements established for this species. Aquatic breeding habitat, aquatic non-breeding habitat, upland habitat, and dispersal habitat were each assessed during the habitat assessment conducted and were considered either unsuitable or marginally suitable. As a result, USFWS-protocol-level surveys within the study area were not warranted for this species. Furthermore, the CRLF could have a low potential to move through the project site during construction activities as described in Section 4.4.1, Existing Conditions. If frogs were present within the vicinity, implementation of the Proposed Project would have long-term beneficial effects to CRLF by reducing the need for future emergency repairs and for sediment removal at the Facility. Therefore, the Proposed Project's impacts on the CRLF or its potential habitat would be less than significant.

Steelhead and Coho Salmon. These special-status fish species are not expected to occur within the study area due to several barriers to anadromy downstream of the Facility, as previously described. As a result, the Proposed Project would not have any direct impact on these species. Indirect impacts associated with decreased water quality during construction downstream of the work areas would be avoided with implementation of the Standard Construction Practices. Downstream reaches of Laguna Creek would continue to receive base flows during construction to support these species as required. The Proposed Project would not adversely affect suitable spawning and rearing habitat for steelhead or coho salmon located approximately 2 miles downstream of the Proposed Project. Additionally, implementation of the Proposed Project would have long-term beneficial effects to steelhead and coho salmon by improving sediment management at the Facility and maintaining in-stream flows suitable for various salmonid life stages within the downstream anadromous reaches of Laguna Creek. As a result, the Proposed Project would have a less-than-significant impact on these species.

As described in in Section 3.6.3, Standard Construction Practices, the City would implement the following to avoid and minimize effects to special-status wildlife species: install erosion control best management practices (Standard Construction Practice #1), provide stockpile containment and exposed soil stabilizing structures (Standard Construction Practice #2), provide runoff control devices (Standard Construction Practice #3), provide wind erosion controls (Standard Construction Practice #4), located and stabilize spoil disposal sites (Standard Construction Practice #5), store equipment at least 65 feet from active channel to minimize potential hazardous spills (Standard Construction Practices #6 and #7), prevent equipment leaks through regular maintenance (Standard Construction Practice #8), implement proper waste/trash management (Standard Construction Practice #9), avoid activities in active channel (Standard Construction Practice #10), isolate activities in active channel (Standard Construction Practice #11), use appropriate equipment to minimize disturbance to channel (Standard Construction Practice #12), avoid retained riparian vegetation (Standard Construction Practice #13), restore temporarily disturbed natural communities/areas by replanting with natives (Standard Construction Practice #14), conduct a training-education session for project construction personnel (Standard Construction Practice #16), and prevent inadvertent entrapment of wildlife during construction activities (Standard Construction Practice #29).

Implementation of MM BIO-1a through MM BIO-1d, would reduce potentially significant direct and indirect impacts from construction to special-status wildlife species to a less-than-significant level. See Section 4.4.3.5, Mitigation Measures, for details.

Operation and maintenance activities under the Proposed Project would not result in significant impacts to special-status wildlife, as such activities would not involve construction or substantial ground disturbance. New nighttime lighting at the Facility would be task lighting along the valve vault and stairs, which would be on timers and switches to provide lighting during emergency work or maintenance activities. Given that the new lighting would be localized in particular areas, would not be used regularly, and would not appreciably contribute to existing ambient lighting conditions when compared to lighting currently being used in the surrounding area, it would not have a substantial adverse effect on special-status wildlife. Therefore, operation of the Proposed Project would result in less-than-significant impacts to special-status wildlife species.

Impact BIO-2: **Sensitive Vegetation Communities (Significance Standard B).** The Proposed Project could have a substantial adverse effect on the redwood forest alliance vegetation community during construction that would result in both temporary and permanent impacts. ***(Less than Significant with Mitigation)***

The only natural vegetation community within the project site is the redwood forest alliance, which is considered a sensitive vegetation community. Direct temporary and permanent impacts to the redwood forest alliance would result from grading activities to establish temporary access and construction work areas, as well as installation of a new concrete control vault/stairway and bank stabilization. A total of 0.01 acres of permanent impacts and 0.14 acres of temporary impacts to this natural vegetation community could result from Proposed Project implementation. Up to 14 trees (approximately 12 coast redwoods and 2 tan oaks) may need to be removed. While the vast majority of the redwood forest habitat over Laguna Creek and within the project site would remain intact, the Proposed Project could result in a substantial adverse effect on redwood forest alliance. Therefore, the direct impact of the Proposed Project on sensitive natural communities would be potentially significant.

Potential indirect impacts to the redwood forest alliance would consist of short-term construction-related impacts due to erosion, runoff, and dust. Given the temporary nature of these construction-related indirect impacts and the implementation of Standard Construction Practices listed in Section 3.6.3, Standard Construction Practices, potential impacts would be less than significant. Specifically, the City would implement the following to avoid and

minimize effects to the redwood forest alliance vegetation community: install erosion control best management practices (Standard Construction Practice #1), provide stockpile containment and exposed soil stabilizing structures (Standard Construction Practice #2), provide runoff control devices (Standard Construction Practice #3), provide wind erosion controls (Standard Construction Practice #4), located and stabilize spoil disposal sites (Standard Construction Practice #5), restore temporarily disturbed natural communities/areas by replanting with natives (Standard Construction Practice #14), and conduct a training-education session for project construction personnel (Standard Construction Practice #16).

Implementation of MM BIO-2 would reduce potentially significant direct impacts from construction-related activities on sensitive vegetation communities to a less-than-significant level by requiring on-site rehabilitation to pre-construction conditions and monitoring of restoration success.

Direct temporary and permanent impacts to redwood forest alliance would not result from operation and maintenance activities as such activities would not result in vegetation removal. Therefore, operation of the Proposed Project would result in no impacts to this vegetation community.

Impact BIO-3: **Jurisdictional Wetlands and Waters (Significance Standard C).** The Proposed Project would not have a substantial adverse effect on jurisdictional wetlands, but could have a substantial adverse effect on jurisdictional non-wetland waters during construction that would result in both temporary and permanent impacts. ***(Less than Significant with Mitigation)***

No state or federally protected wetlands occur within the study area; however, non-wetland waters of the United States/state under the jurisdiction of USACE, RWQCB, and CDFW do occur within the study area. Construction of the Proposed Project could have direct temporary and permanent effects to jurisdictional non-wetland waters of the United States/state. A total of 0.13 acres of temporary impacts to jurisdictional waters would result from diversion, dewatering, minor channel grading, and sediment removal upstream and downstream of the dam. A total of 0.01 acres of permanent impacts to jurisdictional waters would result from the construction and placement of a new concrete control vault, access stairways, and streambank stabilization within a small portion of the Laguna Creek streambed, but primarily along the upper banks of Laguna Creek. The direct impact of the Proposed Project on jurisdictional non-wetland waters due to construction would be potentially significant.

Short-term and long-term indirect impacts to jurisdictional non-wetland waters relating to construction activities (edge effects) and trash/pollution would be less than significant with implementation of the Standard Construction Practices that would be implemented during Proposed Project construction. As described in in Section 3.6.3, Standard Construction Practices, the City would implement the following to avoid and minimize effects to jurisdictional non-wetland waters: install erosion control best management practices (Standard Construction Practice #1), provide stockpile containment and exposed soil stabilizing structures (Standard Construction Practice #2), provide runoff control devices (Standard Construction Practice #3), provide wind erosion controls (Standard Construction Practice #4), located and stabilize spoil disposal sites (Standard Construction Practice #5), store equipment at least 65 feet from active channel to minimize potential hazardous spills (Standard Construction Practice #6 and #7), prevent equipment leaks through regular maintenance (Standard Construction Practice #8), avoid activities in active channel (Standard Construction Practice #10), isolate activities in active channel (Standard Construction Practice #11), use appropriate equipment to minimize disturbance to channel (Standard Construction Practice #12), avoid retained riparian vegetation (Standard Construction Practice #13), restore temporarily disturbed natural communities/areas by replanting with natives (Standard Construction Practice #14), and conduct a training-education session for project construction personnel (Standard Construction Practice #16).

Potentially significant direct impacts to jurisdictional non-wetland waters of the United States/state due to construction would be mitigated to less than significant through implementation of MM-BIO-3 requiring on-site rehabilitation. This mitigation measure would overlap with the mitigation measures taken to address impacts to special-status species (MM-BIO-1a through MM BIO-1d) and sensitive vegetation communities (MM-BIO-2).

Implementation of the Proposed Project would not have direct temporary and permanent effects to non-wetland waters of the United States/state as a result of operation and maintenance activities, as such activities would not result in the fill of such waters. Therefore, operation of the Proposed Project would result in no impacts to jurisdictional non-wetland waters.

Impact BIO-4: **Wildlife Corridors (Significance Standard D).** The Proposed Project would not substantially degrade the quality or interfere with the use of a wildlife corridor or migratory route, or otherwise impede wildlife movement or use of native wildlife nursery sites. ***(Less than Significant)***

As described above, the study area is not recognized as an important regional wildlife corridor by any state agency or jurisdiction and is not considered critical to the ecological functioning of adjoining watersheds and open space areas. However, Laguna Creek may serve as a local movement corridor that marginally connects habitat for certain amphibians, reptiles, and localized fish species. Overall, the Proposed Project would not substantially alter the vegetation communities or physical setting of Laguna Creek.

During construction, activities could block or otherwise hinder wildlife movement along Laguna Creek or temporarily affect the ability of wildlife to access other habitat areas upstream or downstream of the study area. However, this impact would be temporary and would not substantially degrade the quality or use of a wildlife corridor or migratory route. Existing habitat linkages and wildlife corridor functions would remain intact while construction activities are conducted and following completion. Construction activities would not result in impacts to wildlife movement because no new structures that would impede wildlife movement would be installed.

Following temporary construction disturbances and during continued operation and maintenance of the Facility, the function and values of Laguna Creek and the remainder of the site would remain the same as existing conditions, and would improve downstream of the dam due to sediment management at the Facility and maintenance of in-stream flows facilitated by the Proposed Project. While a small area within the banks of Laguna Creek would be permanently impacted due to the placement of diversion improvement structures, this small displacement of habitat would not impact wildlife movement or use of native wildlife nursery sites within the project site and surrounding areas. Since the existing dam already functions as a barrier to the movement of aquatic species, the existing wildlife corridor functions within Laguna Creek would remain intact during and post construction.

Some indirect impacts to localized wildlife movement could occur during construction due to construction-related noise and in-water work. However, these impacts would be temporary and would not be expected to significantly disrupt wildlife movement during or following construction activities. The environmental conditions and uses surrounding Laguna Creek post-construction, during operation and maintenance activities, would remain and actually improve for riparian-dependent species as a result of the Proposed Project's design and operation to provide better flow to downstream fish habitat during diversions. These factors would also reduce the potential for any long-term indirect impacts to wildlife movement as a result of the Proposed Project.

Therefore, direct and indirect impacts on wildlife corridors and migratory routes resulting from the Proposed Project would be less than significant.

**Impact BIO-5: Conflicts with Local Policies or Ordinances (Significance Standard E).** The Proposed Project would not conflict with local policies or ordinances protecting biological resources. ***(Less than Significant)***

The Proposed Project was analyzed for compliance with the County of Santa Cruz LCP and LCP implementing ordinances (see Section 4.11, Land Use and Planning). The Proposed Project occurs within the protected buffer zone of Laguna Creek. However, the Proposed Project qualifies as a riparian exception considering the unique circumstances of its design, function, and net benefit to natural resources. Since the Proposed Project is considered a riparian exception according to the provisions of Chapter 16.30, implementation of the Proposed Project would not conflict with the County's Riparian Corridor Protection Ordinance or Sensitive Habitats Protection Ordinance, and the impact would be less than significant.

Removal of significant trees and protection of avoided trees within the coastal zone would be addressed through the coastal development permit process. Tree removal associated with the Proposed Project would also require a minor conversion permit exemption from Cal FIRE. Furthermore, Standard Construction Practices described in Section 3.6.3, Standard Construction Practices, would protect trees from construction damage and reduce impacts related to the Sudden Oak Death Zone of Infestation (and the "Regulated Area") and the Pitch Canker Zone of Infestation. Specifically, the City would implement the following to avoid and minimize effects to protected trees: avoid retained riparian vegetation (Standard Construction Practice #13), restore temporarily disturbed natural communities/areas by replanting with natives (Standard Construction Practice #14), conduct a training-education session for project construction personnel (Standard Construction Practice #16), and implement measures (i.e. sanitize tools/equipment, designate rinsing stations, and inspect loads of logs/equipment/materials entering and leaving the site) to minimize the potential for pathogen spread (Standard Construction Practice #26).

The Proposed Project would not be in conflict with any local policies or ordinances protecting biological resources. Therefore, the impact of the Proposed Project related to conflicts with local policies would be less than significant.

### 4.4.3.4 Cumulative Impacts Analysis

This section provides an evaluation of cumulative biological resources impacts associated with the Proposed Project and past, present, and reasonably foreseeable future projects, as identified in Table 4.1-1 in Section 4.1, Introduction to Analysis, and as relevant to this topic. The geographic area considered in the cumulative analysis for this topic is the Laguna Watershed.

The Proposed Project would not contribute to cumulative impacts related to conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (Significance Standard F) because it would have no impact related to this standard, as described above. Therefore, this significance standard is not further evaluated.

**Impact BIO-6: Cumulative Biological Resources Impacts (Significance Standards A, B, C, D, and E).** The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to biological resources. ***(Less than Significant)***

The known cumulative projects planned within the Laguna Watershed include the Santa Cruz Water Rights Project (SCWRP), the Laguna Pipeline portion of the North Coast System Repair and Replacement Project, and the Reggiardo Diversion upgrade identified in the Anadromous Fisheries Habitat Conservation Plan. During operations, the SCWRP would commit the City to maintaining minimum bypass flows for fish, including at the Facility and at the Reggiardo Diversion. No construction or development within the Laguna Watershed is proposed as part of the

SCWRP, and therefore this project would not contribute to cumulative construction impacts in the watershed. The Laguna Pipeline and the Reggiardo Diversion upgrade are anticipated to result in construction impacts that can be reduced to a less-than-significant level with standard mitigation measures similar to those identified in this EIR. Additionally, as these two projects would not be constructed at the same time as the Facility they would not result in significant cumulative impacts during construction in the Laguna Watershed. Long-term benefits to biological resources would result from implementation of the SCWRP, which would commit the City to maintaining minimum bypass flows for fish, and from the Reggiardo Diversion upgrade, which would provide sediment transport during high flows to avoid pulsing of sediment to downstream habitat.

As indicated in Section 4.1, there are not any known substantive proposed or pending development projects in the Laguna Watershed that would be under the jurisdiction of the County. However, if any such projects are proposed they would be subject to County approval; such projects that require discretionary approval are assumed to be designed or otherwise conditioned to avoid and minimize impacts to biological resources. As described above, implementation of the Proposed Project would result in impacts to areas immediately surrounding the Facility during project construction. Post construction, the project site would be operated and maintained similar to existing conditions. Mitigation measures listed in Section 4.4.3.5, Mitigation Measures, have been identified to reduce potentially significant impacts to special-status wildlife species, sensitive vegetation communities, and jurisdictional wetlands resulting from project implementation to less-than-significant levels. Similar standard mitigation measures would be implemented for the other two construction projects in the Laguna Watershed. Therefore, the Proposed Project, in combination with the past, present, and reasonably foreseeable future projects in the Laguna Watershed would result in less-than-significant cumulative impacts to biological resources and no further mitigation measures are required.

### 4.4.3.5 Mitigation Measures

Implementation of the following mitigation measures would reduce potentially significant biological resources impacts of the Proposed Project related to special-status wildlife species, sensitive vegetation communities, and jurisdictional aquatic resources, as described in the sections above, to a less-than-significant level.

**MM BIO-1a** **Conduct Worker Environmental Awareness Training.** A qualified biologist shall conduct an education program for all persons employed on the Proposed Project prior to performing work activities. The presentation given by the qualified biologist will include a discussion of the biology and general behavior of any special-status species that may be in the area, how they may be encountered within the work area, and procedures to follow when they are encountered. The qualified biologist shall prepare and distribute handouts containing all of this information for workers to carry on site. Interpretation shall be provided for non-English speaking workers. All personnel working on the site will receive this training, and will sign a sign-in sheet showing they received the training. Any personnel joining the work crew after the training has been administered shall receive the same training before beginning work.

**MM BIO-1b** **Conduct Special-Status Amphibian Species Survey and Monitoring.** A pre-construction survey for Santa Cruz black salamander, California giant salamander, and California red-legged frog shall be conducted within 48 hours prior to the onset of construction activities. The survey area shall include all suitable habitat within the project site, plus a 50-foot buffer. Suitable habitat for these species in the project site consists of damp upland areas near/adjacent to existing aquatic features associated with Laguna Creek, and the wetted portion of Laguna Creek. Additionally, a qualified biologist shall be onsite daily during construction activities to ensure impacts to special-status wildlife are avoided and minimized. A daily pre-construction sweep for wildlife within all staging and work areas shall be conducted followed by construction monitoring when work is conducted within suitable habitat.

Salamanders. If any individuals of Santa Cruz black salamander or California giant salamander are observed during the pre-construction survey or subsequent monitoring, their location(s) shall be recorded and identified for avoidance. Individuals found should be allowed to move out of the area on their own. If avoidance is not feasible, they shall be moved to the nearest appropriate habitat outside of the construction footprint by a qualified biologist. Qualified biologists shall be approved by the California Department of Fish and Wildlife prior to handling/translocating individuals of these species.

California Red-Legged Frogs. Although determined to have a low potential to occur within the project site, initial ground-disturbing activities shall avoid the period when California red-legged frogs are most likely to be moving through upland areas (November 1 through March 31). When ground-disturbing activities must take place between November 1 and March 31, a qualified biologist shall monitor construction activity daily for the species to ensure avoidance. If any California red-legged frogs are observed and take authorization has been provided for the Proposed Project, relevant conservation measures from the applicable take authorization shall be implemented. If any California red-legged frogs are observed and take authorization has not been provided for the Proposed Project, the monitoring biologist shall have the authority to temporarily stop work to allow the species to move out of the work area on its own volition. The U.S. Fish and Wildlife Service shall be contacted if frogs remain in work areas and appropriate avoidance and minimization measures shall be implemented, as determined by the qualified biologist and approved by the City, to ensure protection of the frogs.

MM BIO-1c **Conduct San Francisco Dusky-Footed Woodrat Survey and Relocation.** A pre-construction survey to locate woodrat middens shall be conducted by a qualified biologists within 48 hours prior to the onset of construction activities. The survey area shall include all suitable habitat within the project site, plus a 50-foot buffer. Woodrat middens found shall be mapped and flagged with high visibility flagging tape for avoidance. If middens are found and complete avoidance is not feasible, the following measures shall be implemented:

- If construction is to occur during the breeding season (generally between January 1 and September 31), and young are suspected to be present, the existing midden shall be left undisturbed until such a time as the qualified biologist determines the young are capable of independent survival.
- A qualified biologist shall construct replacement woodrat middens for each midden that would be removed. The replacement middens shall be located in similar habitat outside the area of disturbance.
- A qualified biologist shall trap woodrats and relocate them to the constructed middens outside the area of disturbance. After trapping is complete, the biologist will disassemble the existing woodrat middens by hand to allow any remaining woodrats inside to escape unharmed.
- Prior to implementation of any disturbance of the existing woodrat middens and/or trapping/relocation, approval from the California Department of Fish and Wildlife will be obtained.

MM BIO-1d **Conduct Preconstruction Nesting Bird and Roosting Bat Survey**. Construction and tree removal activities should avoid the migratory bird nesting season (typically February 1 through August 31), to reduce any potentially significant impact to birds that may be nesting on the study area. If construction and tree removal activities must occur during the migratory bird nesting season, an avian nesting survey of the project site and contiguous habitat within 300 feet of all impact areas

must be conducted for protected migratory birds and active nests. The avian nesting survey shall be performed by a qualified wildlife biologist within 7 days prior to the start of ground or vegetation disturbance. Once construction has started, if there are breaks in ground or vegetation disturbance that exceed 14 days, then another avian nesting survey shall be conducted. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans along with an appropriate no disturbance buffer, which will be determined by the biologist based on the species' sensitivity to disturbance (typically 250 feet for passerines and 500 feet for raptors and special-status species). The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing.

To the extent practicable, tree removal should occur outside peak bat activity timeframes when young or overwintering bats may be present, which generally occurs from March through April and August through October, to ensure protection of potentially occurring bats and their roosts on the project site. Additionally, daily restrictions on the timing of any construction activities should be limited to daylight hours to reduce disturbance to roosting (and foraging) bat species. Additionally, a visual bat survey should be conducted within 30 days of the removal of any trees. The survey should include a determination on whether active bat roosts are present on or within 50 feet of the project site. If a non-breeding and non-wintering bat colony is found, the individuals shall be evicted under the direction of a qualified biologist to ensure their protection and avoid unnecessary harm. If a maternity colony or overwintering colony is found in the control building or trees on the project site, then the qualified biologist shall establish a suitable construction-free buffer around the location. The construction-free buffer shall remain in place until the qualified biologist determines that the nursery is no longer active.

MM BIO-2 **Compensate for Impacts to Sensitive Vegetation Communities.** Direct temporary impacts to 0.14 acres of redwood forest alliance would be mitigated through on-site rehabilitation to conditions similar to those that existed prior to grading and/or ground-disturbing activities. This would consist of re-contouring temporarily impacted areas to match pre-project grade and non-native species removal and monitoring over a 3-year period to inhibit non-native species encroachment. A one-time rehabilitation effort followed by monitoring and non-native weed removal for a minimum of 3 years shall compensate for temporary direct impacts to the redwood forest alliance vegetation community.

Direct permanent impacts to 0.01 acres of redwood forest alliance vegetation community shall be mitigated through on-site enhancement activities at a 2:1 mitigation ratio.

A conceptual Habitat Mitigation and Monitoring Plan shall be prepared and implemented that includes the enhancement activities, which may include non-native species removal and revegetation followed by monitoring, for all disturbed areas. The plan shall specify the criteria and standards by which the enhancement actions will compensate for impacts of the Proposed Project on the redwood forest vegetation community and shall at a minimum include discussion of the following:

- The enhancement objectives including the type and amount of revegetation to be implemented taking into account enhanced areas where non-native invasive vegetation is removed and replanting specifications that take into account natural regeneration of species.
- The specific methods to be employed for revegetation.

- Success criteria and monitoring requirements to ensure vegetation community restoration success.
- Remedial measures to be implemented in the event that performance standards are not achieved.

MM-BIO-3 **Compensate for Impacts to Jurisdictional Non-Wetland Waters.** Direct temporary and permanent impacts to jurisdictional non-wetland waters shall be mitigated on site. On-site measures shall include rehabilitation of areas temporarily impacted (approximately 0.13 acres) and permanently impacted (approximately 0.01 acres) within jurisdictional limits at a 1:1 mitigation ratio. Areas impacted shall be returned to conditions similar to those that existed prior to grading and/or ground-disturbing activities. The conceptual Habitat Mitigation and Monitoring Plan implemented as part of MM-BIO-6 shall include enhancement activities to address impacts to jurisdictional non-wetland waters, which may include non-native species removal and revegetation followed by monitoring, for all disturbed areas. The plan shall specify the criteria and standards by which the enhancement actions will compensate for impacts of the Proposed Project on jurisdictional non-wetland waters. Direct temporary and permanent impacts to jurisdictional non-wetlands waters shall be addressed through Section 401 and Section 404 of the Clean Water Act, the Porter-Cologne Water Quality Act, and Section 1602 of the California Fish and Game Code.

## 4.4.4 References

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