ENVIRONMENTAL ASSESSMENT

Application for Non-Project Use of Project Lands and Waters

Pacific Gas and Electric Company

Drum-Spaulding Hydroelectric Project

FERC Project No. 2310-230

Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Administration and Compliance
888 First Street, NE
Washington, D.C. 20426

August 2019

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FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF ENERGY PROJECTS
DIVISION OF HYDROPOWER ADMINISTRATION AND COMPLIANCE

1.0 INTRODUCTION

Project Name: Drum-Spaulding Hydroelectric Project

FERC Project No.: 2310-230

1.1 Application

Application Type:	Non-Project Use of Project Lands and Waters; water withdrawal from licensed project waters
Date filed:	April 8, 2019, and supplemented on May 7, 2019
Licensee:	Pacific Gas and Electric Company
Water Body:	South Canal
Counties & States:	Placer County, California

1.2 Purpose and Need for Action

On April 8, 2019, and supplemented on May 7, 2019, Pacific Gas and Electric Company, licensee for the Drum-Spaulding Hydroelectric Project No. 2310, filed an application requesting Federal Energy Regulatory Commission (Commission) authorization to allow the use of project lands and waters for non-project purposes. Specifically, the licensee is requesting approval to grant Placer County Water Agency (PCWA) permission to use project lands and water within the project boundary for the construction and operation of a raw water intake facility (facility) on South Canal, a man-made water conveyance feature of the project. The facility, which would withdrawal up to 62 million gallons of water per day (mgd) from South Canal, would serve as a redundant/alternate water supply to water that PCWA is already withdrawing from the project per a Water Supply Agreement between PCWA and the licensee. Therefore, operation of the facility would not represent the withdrawal or use of any additional water from the project than what is already being used by PCWA per the Water Supply Agreement. Following construction of the facility, PCWA would make minor repairs to an existing storm drain located near the bank side of South Canal. Details regarding the licensee's proposal and the proposed action, including details of the existing Water Supply Agreement and the historical role of the project in delivering water for non-project uses in Placer County, are contained in *Section 3.0, Proposed Action and Alternatives.*

Figure 1. Location of proposed action (Source: PG&E, 2019).

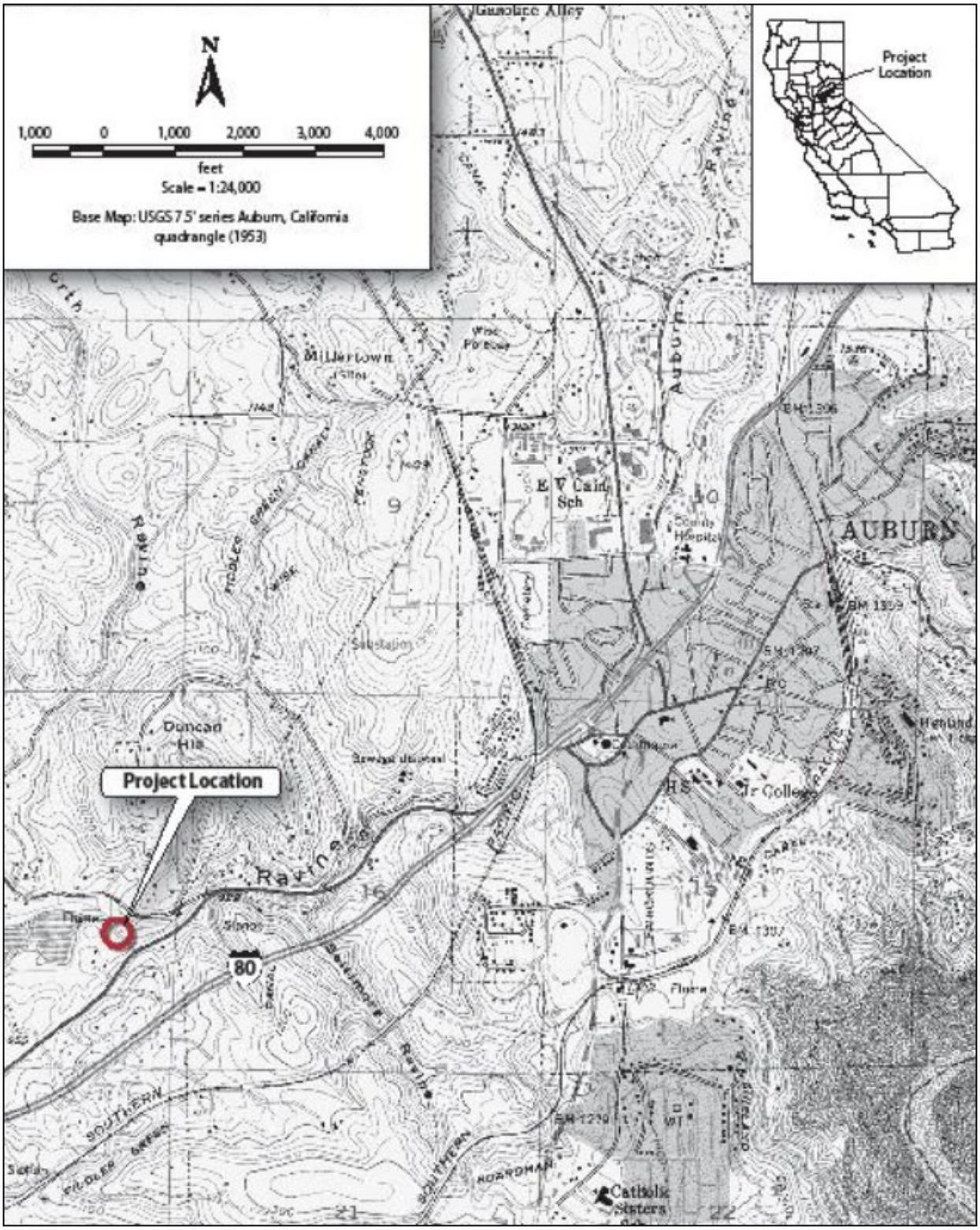
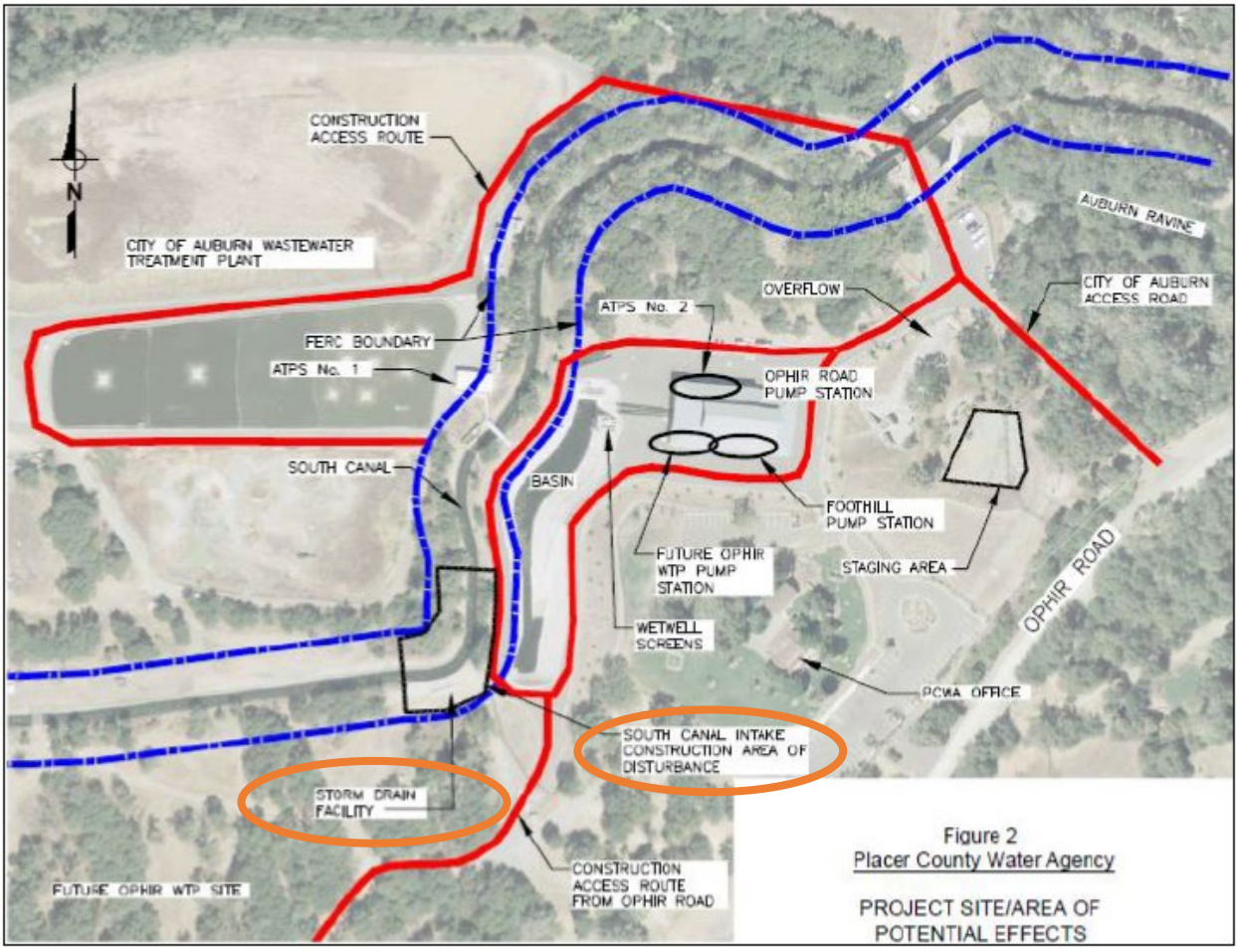


Figure 2. Location of proposed action (denoted by orange circles) in relation to project boundary along South Canal and other PCWA facilities (Source: PG&E, 2019).



This Environmental Assessment (EA) analyzes the environmental effects of the licensee's proposed action to allow PCWA to construct and operate a raw water intake facility and repair an existing storm drain on South Canal, and provides a basis for the Commission to make an informed decision on the licensee's April 8, 2019 application for non-project use of project lands and waters.

1.3 Statutory and Regulatory Requirements

A. Endangered Species Act

Section 7 of the Endangered Species Act requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or result in any adverse modification of the critical habitat of such species. The following species are listed as either "Threatened" or "Endangered" under the Endangered Species Act within ten miles of the proposed action area: Stebbins

morning-glory (*Calystegia stebbinsii*), Pine Hill ceanothus (*Ceanothus roderickii*), Pine Hill flannelbush (*Fremontodendron decumbens*), El Dorado bedstraw (*Galium californicum ssp. sierrae*), Sacramento Orcott grass (*Orcuttia viscada*), Hartweg's golden sunburst (*Pseudobahia bahiifolia*), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), California red-legged frog (*Rana aurora draytonii*), and Giant garter snake (*Thamnophis gigas*).

PCWA conducted field surveys in 2008 and 2009, which involved a general wildlife survey and habitat assessment, a botanical survey to document existing habitat conditions and determine whether the area contains any suitable habitat for the abovementioned plant species, and a characterization of biological communities and their associated wildlife habitat uses.

Given the results of these surveys, combined with the fact that there is no prior record of these species being present in the area, PCWA determined that none of the plant species listed above occur in the project area. With regard to the wildlife species mentioned above, following the surveys, PCWA determined that these species have a low potential to occur in the area either due to a lack of suitable habitat or because the area is outside of their known respective range. Further, none of these species have ever been recorded in the project area. Based on all of this, no effect to these species or their habitat is expected as a result of the proposed action.

B. National Historic Preservation Act

Under section 106 of the National Historic Preservation Act,[1] and its implementing regulations,[2] federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of Historic Places (defined as historic properties or National Register) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking.

PCWA contracted a qualified architectural historian and archaeologist to conduct a records search, archival research and an archaeological survey of the area of potential effect (APE) in 2008 and 2009. From these efforts, PCWA determined that there are no sensitive archaeological resources or historic resources present in the APE that would meet the criteria for listing in the National Register. During its consultation with the U.S.

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[1] 16 U.S.C. §§ 306108 et seq. (2016). The National Historic Preservation Act was recodified in Title 54 in December 2014.

[2] 36 C.F.R. Part 800 (2016).

Army Corps of Engineers (Corps) for its Section 404 permit, PCWA provided its findings to the Corps, which then contacted the California State Historic Preservation Officer (California SHPO) for comments on the undertaking (i.e., proposed action) by letter dated May 4, 2010. In its May 4, 2010 letter, the Corps stated that the undertaking, which the Corps considers to be the construction and maintenance of the intake structure, would have no adverse effect on historic properties. On May 26, 2010, the California SHPO concurred with the Corps' determination.

Because the undertaking and APE, as defined by the Corps, encompass what is under also review by the Commission in this proceeding, Commission staff concur with the California SHPO's determination that the undertaking would not adversely affect historic properties.

2.0 PROJECT DESCRIPTION AND OPERATION

2.1 Drum-Spaulding Project Description

The Commission issued a license for the Drum-Spaulding Project on June 24, 1963.[3] The project is currently undergoing relicensing in the Commission's Division of Hydropower Licensing, and continues operation under an annual license pending Commission action on the licensee's relicensing application. Commission staff issued a Final Environmental Impact Statement on December 19, 2014 (2014 FEIS), that considers relicensing the project.

The existing 192.5-MW Drum-Spaulding Project consists of ten developments: Spaulding No. 3, Spaulding No. 1 and No. 2, Deer Creek, Alta, Drum No. 1 and No. 2, Dutch Flat No. 1, Halsey, Wise, Wise No. 2, and Newcastle. Collectively, these ten developments contain 29 reservoirs; 6 major water conduits; 12 powerhouses, 6 transmission lines; 1 distribution line; and appurtenant facilities and structures. The proposed action would occur within the Newcastle Development, which consists of South Canal, Newcastle Powerhouse header box, Newcastle penstock, Newcastle Powerhouse, and one transmission line. South Canal is comprised of an open ditch (6.7 to 10 feet wide by 6 feet deep), flume (9 feet wide by 6 feet deep), and tunnel (6.5 feet wide by 8 feet high) sections with a total length of 5.4 miles.

2.2 Drum-Spaulding Project Operation

[3] Order Issuing License (Major) (29 FPC 1265).

The project's larger reservoirs (Fordyce Lake, Lake Spaulding, and Lake Valley reservoir) operate as storage reservoirs to capture rain and snowmelt during the spring and summer months and are slowly drawn down throughout the summer and fall months, releasing water for power generation, irrigation, and domestic consumption purposes. These reservoir dams have spill gates or flashboard structures, which are used to optimize the storage in the reservoirs during the snowmelt period. Meadow Lake, White Rock Lake, and Lake Sterling are examples of other reservoirs in the system that are operated as fill and spill reservoirs. These dams have passive spillways that overtop when the water level exceeds the storage capacity of the reservoir, but do not have spill gate structures. The forebays and afterbays, including Deer Creek, Drum, Halsey, Dutch Flat, Alta, and Wise, have minimal usable storage capacities and are operated as regulating reservoirs, reshaping and diverting flows from upstream storage reservoirs for power generation, irrigation, and consumption purposes.

Nine powerhouses (Spaulding No. 1, No. 2, and No. 3; Deer Creek, Alta, Halsey, Wise, Wise No. 2, and Newcastle) are operated as base-loaded plants. Dutch Flat No. 1 Powerhouse is operated for intermediate amounts of peaking (limited by diurnal storage availability in the forebay and afterbay of the powerhouse), and the Drum No. 1 and No. 2 powerhouses are operated as peaking plants. The licensee implements hydrologic and hydraulic operation planning for the project to manage basin runoff throughout the annual hydrologic cycle for irrigation, municipal water supply, recreation, and power generation. The project utilizes storage capacity within its reservoirs to store spring runoff that occurs during the snowmelt season. Stored water is gradually released during summer and fall to augment streamflows, provide hydroelectric generation, and meet consumptive water demands. The storage reservoirs are generally operated in accordance with target storage curves to achieve reservoir levels and storage capacities that manages the available water effectively.

In general, weekly and daily operation of the project is prioritized for facility and public safety, regulatory compliance, and to balance irrigation and domestic consumptive water demands with power generation (FERC, 2014).

2.3 Existing Water Withdrawals

Historically, one of the primary purposes of the project infrastructure has been for the diversion and delivery of water across sub-watersheds for uses other than hydropower generation; e.g., municipal and domestic water supply, agriculture and irrigation, mineral extraction, and other industrial uses. In its 2014 FEIS for relicensing of the project, Commission staff identified the Nevada Irrigation District (NID) and PCWA as the principal non-hydropower purveyors of water used and distributed through the project facilities. With regard to NID, it has significant delivery points: (1) below the Deer Creek Powerhouse on the South Fork Deer Creek; (2) below the Bear River Canal Diversion Dam on the Bear River; (3) from Rock Creek Reservoir; (4) from South Canal;

and (5) from Auburn Ravine. Major PCWA delivery points are located: (1) below Alta Powerhouse on the Little Bear River; (2) upstream of Halsey Forebay from Bear River Canal; (3) from Upper Wise Canal upstream of Rock Creek Reservoir; (4) from Wise Forebay; and (5) at several locations along South Canal. NID and the licensee's historical water rights for water delivery are senior to, and hold priority over, hydroelectric power generation. Consumptive water deliveries are made by the licensee to PCWA on a contractual basis via the Water Supply Agreement, which currently allows PCWA to purchase 100,400 acre-feet of water annually (62 mgd) from the licensee (PG&E, 2019). The Commission does not have jurisdiction over water rights or how an entity exercises their water rights; however, Commission staff recognize that this project experiences substantial demands for water flowing through the project for non-project uses (FERC, 2014).

Approval of the proposed action would not allow an increase from PCWA's current allowable withdrawal of 62 mgd from the project, rather, it would only add an additional facility within the project to facilitate a withdrawal.

3.0 PROPOSED ACTION AND ALTERNATIVES

3.1 Description of Licensee's Proposal

A. Proposed Action

PCWA and the licensee own and operate separate, but overlapping, water delivery and hydropower generation infrastructure within the project in Placer County. PCWA functions to provide secondary use of a portion of the water conveyed through the project to water users downstream of the project for irrigation, retail, and wholesale delivery for consumptive uses within western Placer County. Usage of this water, water withdrawal locations within the project (including the proposed facility under review in this EA), and the volume of water that the licensee is obligated to provide to PCWA, is memorialized in a Water Supply Agreement, which was included in the licensee's April 8, 2019 filing. The Water Supply Agreement legally obligates the licensee to provide project water to PCWA at specified withdrawal locations.

The proposed action would allow the licensee to grant PCWA permission to use project lands and water within the project boundary for the construction and operation of the facility on South Canal. The facility would serve as a redundant withdrawal point to water that PCWA is already withdrawing from the project per the Water Supply Agreement. Therefore, it would not provide any additional withdrawal volume from the project than what is already occurring. Specifically, PCWA would primarily operate the facility to withdraw up to 62 mgd of water from South Canal to feed one of its transfer basins located outside of the project boundary. This transfer basin supplies multiple PCWA water treatment plants and pump stations, including PCWA's future Ophir Water

Treatment Plant, also located outside of the project boundary. During the project's annual maintenance outage in October and November, when South Canal is not conveying water for hydropower generation, PCWA would also use the facility to deliver water from the transfer basin to South Canal for the purpose of supplying water to other existing PCWA facilities located further downstream on South Canal that would otherwise not have access to water due to the maintenance outage. This would occur on an as-needed basis to allow PCWA to use South Canal as a conveyance feature when the licensee is otherwise not using South Canal for project operations. This redundancy for PCWA would alleviate water supply issues that PCWA has experienced in the past during the project's annual maintenance outage.

The facility would be built into the bank side of South Canal (i.e., recessed into the canal). The cast-in-place concrete facility would measure 32-feet in length, 17-feet in width, and 11-feet in height, and contain three five-foot slide gates. The facility would also be equipped with an inclined steel trashrack (with a slope of 1:1 to match the adjacent canal slope) that extends the full length of the structure with 1/2–inch thick steel bars spaced at six-inches on center. PCWA would extend three existing 60-inch steel pipes from their current terminus to the facility in order to transport water withdrawn from South Canal via the facility to other PCWA facilities (i.e., pump stations or treatment plants) located outside of the project boundary.

The proposed action also includes the repair of an existing storm drain located near the bank side of South Canal following completion of construction of the facility. Repair activities are minor and include restoring a small concrete curb associated with the drainage inlet and replacement of a manhole cover. These repairs are intended to improve PCWA's stormwater management facilities that it owns and operates located outside of the project boundary; however, the storm drain itself is located within the project boundary, and is hence being included as part of the proposed action.

Collectively, the proposed action would result in the temporary ground disturbance of 0.1 acre of land within the project boundary and the facility would occupy 435 square feet of land within the project boundary. Most construction would occur in areas that have been previously disturbed; however, the proposed action will require the removal of approximately six trees, with five of the trees being native oak trees. None of the activities described as part of the proposed action require the licensee to make any operational changes at the project.

The facility would be constructed during the licensee's annual project outage in the fall of 2019, which is currently scheduled for the months of October and November, when South Canal is out of service and drained. To construct and install the facility, PCWA anticipates first clearing and grubbing removal of a section of existing fencing along South Canal. This would then allow PCWA to remove approximately 100 feet of the existing canal lining and excavate approximately 700 cubic yards of earth to make room for the facility to be installed on South Canal. PCWA would next install the

stabilized base structure of the facility, pour the concrete for the facility, and connect the existing three 60-inch pipes to the facility. The facility would then be backfilled, and the 60-inch gates and trashrack components of the facility would be installed. Once this is completed, PCWA would connect the electrical and instrumentational components of the facility. Following all of this, PCWA would restore the canal lining with a wet shotcrete lining in accordance with the licensee's canal repair criteria, restore and re-grade the disturbed area in accordance with its environmental protection measures and permit conditions, and re-install the fence it initially removed to start the work. Because construction would occur during the South Canal outage, no in-water work would occur.

With regard to the storm drain repair work, PCWA anticipates starting the repairs after the facility is constructed, and concluding the work by March 1, 2020. To facilitate the repair, the licensee would restore a concrete curb on the existing drainage inlet. Historically, the curb was always part of the storm drain; however, PCWA modified the curb in the past and is proposing to restore it back to its original state. The repair would also entail the removal of the existing manhole cover and replacing it with steel grating.

PCWA states that all construction would primarily occur during daylight hours (7 a.m. and 6 p.m.); however, weekend and nighttime hours may be necessary at times. PCWA would use an existing access road to reach the construction area, and store its equipment and construction materials at one of its pump stations located adjacent to the project boundary, meaning that no new access roads or staging areas would be created as a result of the proposed action.

B. Proposed Environmental Protection Measures

PCWA would implement numerous environmental protection and mitigation measures, including best management practices (BMPs), before, during, and after construction of the facility. These measures are intended to address potential impacts to air quality, terrestrial resources (specifically, raptors), cultural resources, geological resources, noise, and water quality that could occur as a result of the construction and operation of the facility. These measures were accepted by PCWA during the California Environmental Quality Act (CEQA) review process. Additionally, some of these measures are permit conditions of various county, state and federal permits or certifications that are necessary for the construction and operation of the facility. Specifically, PCWA's Initial Study/Mitigated Negative Declaration (IS/MND) document, prepared during the CEQA process, contains a table with these mitigation measures and the licensee included this table in its April 8th filing. Due to the extensiveness of the measures, Commission staff have included the aforementioned table as an appendix to this EA (Appendix A) rather than enumerating each measure here.

3.2 No-Action Alternative

Under the no-action alternative, the Commission would deny the licensee's non-project use of project lands and waters application. As a result, the licensee could not allow the facility to be constructed and the storm drain to be repaired. Under this alternative, there would be no measurable environmental impacts.

3.3 Other Action Alternatives

The licensee's application indicates that no other feasible action exists, given that the facility would be the only means for PCWA to ensure that water is delivered uninterrupted to its Foothill Water Treatment Plant during the licensee's annual outage of South Canal. Further, the licensee is obligated to fulfill the terms of the Water Supply Agreement with PCWA, which includes use of the facility, once constructed.

4.0 AGENCY CONSULTATION AND PUBLIC INVOLVEMENT

4.1 Licensee's Pre-filing Consultation

The licensee's April 8th filing discusses PCWA's pre-filing consultation efforts regarding the proposed action, which occurred primarily through the CEQA process and various county, state, and federal permit processes. Those efforts are described below.

The CEQA process requires public agencies, such as PCWA, to conduct an environmental review process to identify significant environmental impacts of a "project" (in this case, the proposed action) and to adopt feasible mitigation measures for those impacts before approving a "project". PCWA developed an IS/MND for the "project" to provide to state and federal agencies, as well as the public, which includes information about the proposed action and its potential impacts on the local and regional environment. The IS/MND was then circulated for agency and public comment on August 28, 2009, followed by a public hearing on the proposed action on October 1, 2009. From this consultation process, PCWA received recommended mitigation measures from various agencies, which PCWA has committed to implementing. These measures are summarized in Appendix A and reflect PCWA's incorporation of comments and/or permit conditions that were developed during the CEQA process.

Additionally, PCWA consulted with the Regional Water Quality Control Board on June 3, 2015 in order to obtain a Water Quality Certification for the construction and operation of the proposed facility pursuant to Section 401 of the Clean Water Act. It is important to note that this Water Quality Certification applies only to PCWA's proposed facility and is not related to the project license.

PCWA consulted with the Corps on May 3, 2017 pursuant to Section 404 of the Clean Water Act and ultimately received a Nationwide Permit for the proposed action.

The California Department of Fish and Wildlife (California DFW) was contacted by PCWA on September 30, 2009 with regard to the need for a streambed alteration agreement for the proposed action. By letter dated October 1, 2009, California DFW confirmed that a streambed alteration agreement was not needed. PCWA states that California DFW was also consulted during the CEQA process regarding any state-listed plant or wildlife species and their habitats; however, because there are no anticipated impacts to those species, California DFW did not provide comments on the proposed action.

The California SHPO was also consulted regarding the proposed action on May 4, 2010, during the Section 404 permitting process described above. Details regarding this efforts is presented in more detail in *Section 1.3, Statutory and Regulatory Requirements*.

4.2. Commission's Public Notice Consultation

On May 21, 2019, the Commission issued a 30-day public notice soliciting comments, motions to intervene, and protests of the licensee's application for non-project use of project lands and waters. On June 18, and June 20, 2019, California DFW and Foothills Water Network (FWN) and member organizations[4] each filed a notice of intervention, respectively. FWN's notice of intervention included comments, which are discussed below.

In its June 20, 2019 notice of intervention, FWN stated that it understood one of the stated purposes of the proposed action is to add redundancy to PCWA's water system as a whole by enabling it to continue delivering water uninterrupted to its Foothill Water Treatment Plant during the licensee's annual outage. FWN went on to quote a portion of the Commission's 2014 FEIS for relicensing of the project. In this section of the FEIS, Commission staff summarize and analyze the licensee's proposed flow releases from specific canals during the annual project outage per its final license application[5]:

"When the Bear River, Upper Wise, or Lower Wise canals are out of service during the annual outage, no water would be discharged from the Wise powerhouses to South Canal; consequently, no water would be available in South Canal for release to

[4] Member organizations include American Rivers, American Whitewater, California Sportfishing Protection Alliance, Friends of the River, Northern California Council Federation of Fly Fishers International, South Yuba River Citizens League, and Trout Unlimited.

[5] Per proposed canal outage measure DS-AQR1, Part 4 in the licensee's final license application for relicensing, filed with the Commission on April 12, 2011, and then amended on June 18, 2012 and May 31, 2013.

supplement natural flows in Auburn Ravine to comply with higher proposed minimum streamflows or the 5 cubic feet per second (cfs) alternate minimum release proposed during a canal outage by California DFW and U.S. Bureau of Reclamation. No other source of water controlled by the licensee is available during a canal outage to make this augmentation [to Auburn Ravine]. The only flow in Auburn Ravine near South Canal during a canal outage would be the natural base flow or discharges to Auburn Ravine by other non-project water users not controlled by the licensee."

FWN contends that natural base flow in Auburn Ravine during the typical time of year the annual canal outage occurs is so low that little water is present in Auburn Ravine. To that end, FWN indicated in its June 20, 2019 notice of intervention that it believes that both the licensee and PCWA should take the opportunity provided by the "redundancy" for PCWA's water deliveries to also offer redundancy into Auburn Ravine in order to protect the ravine's fishery resources. Specifically, FNW defines the redundancy to Auburn Ravine as "year-round water releases" to the ravine. These comments are addressed in *Section 6.0, Conclusions and Staff Recommendations*.

5.0 ENVIRONMENTAL ANALYSIS

In this section of the EA, the affected environment in each resource section is based on the licensee's April 8, 2019 application and supplemental filings or the Commission's 2014 FEIS for relicensing of the project, unless otherwise noted. Staff analysis of probable impacts from the proposed action then follows in the second part of each resource section under Environmental Effects.

5.1 General Area Description

The project is located on the Yuba and Upper Bear Rivers within the Sacramento River Hydrologic Region on the western slope of the Sierra Nevada in northern California. The project area includes facilities ranging in elevation from about 435 feet (ft.) mean sea level (msl) to 7,840 ft. msl. The project area generally experiences warm, dry summers and cool winters, with precipitation falling generally as snow above 5,000 ft. in elevation and as rain in the lower elevations. The majority of precipitation occurring in the project area occurs between December and March (65% of total annual average precipitation), with the driest months being June, July and August (2% of total annual average precipitation).[6]

Distinct vegetation types in the vicinity of the project are distributed along an elevation gradient, creating bands with characteristic or dominant species. These bands somewhat overlap and intergrade with each other forming transition zones on their outer

[6] Precipitation amounts as measured at the National Weather Service's Blue Canyon monitoring station.

edges. Vegetation in the foothills is dominated by an overstory of gray pine and ponderosa pine, with a mixture of small stands of hardwoods and low-elevation chaparral shrubs. In riparian areas, black cottonwood, white alder, and valley oak are common. At mid-elevations, dominant vegetation includes incense cedar, Douglas fir, white fir, madrone and sugar pine, and significant stands of Brewer's oak, which occupy south-facing slopes and areas of annual grasslands. Chaparral species include whiteleaf manzanita, greenleaf manzanita, mountain whitethorn, wedgeleaf ceanothus, deerbrush, and poison oak. At higher elevations, the forested areas are dominated by incense cedar, red fir, white fir, and Jeffrey pine overstory, with lodgepole pines in moist soils in meadows and along shorelines. Black oak, willow, quaking aspen, and mountain alder are common deciduous trees and may form a subcanopy beneath the conifer overstory. Some areas are barren and devoid of vegetation, due to rocky and steep terrain with little to no soil layer. The shrub layer is dominated by mountain whitethorn, huckleberry oak, pinemat manzanita, and bush chinquapin.

5.2 Resource Area Descriptions and Analysis

A. Terrestrial Resources

Affected Environment

There are two dominant biological communities that occur directly within the proposed action area - mixed oak woodland and non-native annual grassland. They are discussed in more detail below.

Non-Native Annual Grassland

Non-native annual grassland occurs in open undeveloped and previously disturbed portions of the project area. It also forms the dominant understory of the mixed oak woodland community. Species composition usually includes a number of non-native grass species as well as several herbaceous annual species. Dominant species in this herbaceous community include ripgut brome *(Bromus diandrus),* soft-chess brome *(Bromus hordeaceous),* wild oats *(Avena fatua),* and tocalote *(Centaurea melitensis).* Species such as Mediterranean mustard *(Hirsclfeldia incana),* medusahead *(Taeniatherum caput-medusae),* and redstem filaree *(Erodium cicutarium)* have been observed as well.

Non-native annual grasslands provide habitat for wildlife such as western fence lizard (*Sceloporus occidentalis*), Botta's pocket gopher *(Thomomys bottae),* and meadow vole *(Microtus californicus).* These species provide a prey base for raptors, such as red-tailed hawk *(Buteo jamaicensis),* red-shouldered hawk *(Buteo lineatus),* and great horned owl *(Bubo virginianus),* and for mammals such as American badger *(Taxidea taxus)* and coyote *(Canis latrans).* Black-tailed deer *(Odocoileus hemionus columbianus)* may also

use the grasslands during the spring to forage on grasses and forbs. Wild turkeys *(Meleagris gallopavo)* occasionally forage in annual grasslands for arthropods when escape cover is nearby.

Mixed Oak Woodland

Mixed oak woodlands typically have two or more oak species as the dominant tree species, and are generally found in valleys and on slopes with moderately deep soils. This community is characterized by scattered oak trees with shrubs and non-native grasses in between. Dominant species in the project area include blue oak *(Quercus douglassi),* interior live oak *(Quercus wislizeni),* and valley oak *(Quercus lobata).* Foothill pine *(Pinus sabiniana),* California buckeye *(Aesculus califomica),* coyote bush *(Ceanothus cuneatus),* and Himalayan blackberry *(Rubus armeniacus)* also occur in the woodland community.

Mixed oak woodlands provide cover, foraging, and breeding opportunities for a variety of wildlife species. Species common to this habitat include western fence lizard, common kingsnake (*Lampropeltis getula*), acorn woodpecker *(Melanerpes formicivorus),* Nuttall's woodpecker *(Picoides nuttallii),* bushtit *(Psaltriparus minimus),* red-tailed hawk, red-shouldered hawk, great horned owl, wild turkey, Western gray squirrel *(Sciurus griseus),* dusky-footed woodrat *(Neotoma fuscipes),* harvest mouse *(Reithrodontomys megalotis),* and Columbian black-tailed deer.

Environmental Effects

During construction, ground-disturbing activities related to site preparation for the facility and the installation of the facility may result in minor, short-term effects to the area immediately surrounding the facility on the bank side of South Canal. Similarly, a very small amount of ground disturbance is anticipated to repair the storm drain. As previously mentioned, 0.1 acre of ground disturbance will occur as a result of the proposed action, including the removal of six trees, five of which are native oaks. Given this, the species that comprise or utilize the existing mixed oak woodland community, specifically raptors and migratory birds, have an increased potential to be impacted by the construction of the facility through the minor loss of available oak tree habitat, compared to the species that comprise non-native annual grassland community. All wildlife in the proposed action area may experience minor, short-term increases in human activity and noise due to construction.

To mitigate the potential impacts to migratory birds and raptors, PCWA has committed to avoiding construction (including tree removal) between March and August, which is breeding and nesting season for raptors. If construction is unavoidable during this timeframe, which is unexpected and unlikely, PCWA has measures in place to have a qualified wildlife biologist conduct nesting bird and raptor surveys before any

construction during this timeframe occurs. If no active nests are identified by the surveys, PCWA would continue with construction; however, if active nests are identified, PCWA would establish a no-disturbance buffer in consultation with California DFW around the site to avoid disturbance or destruction of the nest site until after the breeding season and after a qualified wildlife biologist determines that the young have fledged. These measures are also explained in Appendix A.

The potential exists for invasive plant species to be introduced or spread within the proposed action area as equipment enters and exists the work area. Given that the area has been previously disturbed, it likely already contains invasive plants species; however, in an effort to reduce the potential for additional invasive plant species to colonize the work area as a result of the proposed action, PCWA would clean its equipment prior to entering and exiting the work area. With regard to ground-disturbing activities, PCWA would stabilize these areas with a native California seed mix following construction. More information regarding these measures are in Appendix A.

Overall, given that the small footprint of the facility, the short duration of construction, and the mitigation measures PCWA would implement during and immediately following construction, impacts to terrestrial resources should be minor and short-term. Once constructed, operation of the facility should not result in any adverse effects to terrestrial resources.

B. Hydrology and Water Quantity

Affected Environment

South Canal is the primary conveyance feature within the Newcastle Development of the project, diverting up to 375 cfs from the two Wise powerhouses to Newcastle Powerhouse. South Canal traverses over (or under in the event of a tunnel crossing) the Dutch, Secret, and Miners Ravine watersheds, respectively. It is a concrete-lined channel, approximately seven feet high and six feet wide on the bottom, with 1:1 side walls. The normal operating depth of South Canal is approximately five feet. No water (outside of minimal leakage) is released or spilled from South Canal into these drainages. South Canal flows are delivered to the Newcastle penstock, a pipe with steel and concrete sections, and a capacity of 392 cfs, via the Newcastle Powerhouse header box. The header box delivers a minimum instream flow, as well as periodic spills, from the South Canal into Mormon Ravine for 0.3 miles before entering Folsom Lake (a non-project facility operated by the U.S. Bureau of Reclamation). Article 39 of the project license

requires the licensee to maintain a minimum flow of 5 cfs in Mormon Ravine upstream of Newcastle Powerhouse, year-round, except during South Canal outages.

As described in *Section 2.3, Existing Water Withdrawals*, the project infrastructure has historically played a pivotal role in delivering water for non-hydropower uses, including municipal and domestic water supply, agriculture and irrigation, mineral extraction, and other industrial uses. PCWA's use of project water represents a considerable amount of this non-hydropower water, totaling 100,400 acre-feet of water per year (or 62 mgd) from the project.

Environmental Effects

Under the proposed action, PCWA would not increase its current withdrawal of water from the project. Therefore, the proposed action would not result in any adverse effects to water quantity at the project.

C. Water Quality

Affected Environment

As previously stated, South Canal is a man-made feature that functions to convey water from Wise powerhouse Nos. 1 and 2 to the Newcastle penstock and Mormon Ravine by way of the Newcastle Powerhouse header box. Given this, water quality data specific to South Canal is minimal. In its 2014 FEIS for relicensing, Commission staff determined water quality across the project to be high and in accordance with the following seven basin plan objectives[7]: biostimulatory substances; chemical constituents; color; pesticides; floating material; oil and grease; and sediment and settable solids. The following water quality parameters were not consistently met at the project per the FEIS: bacteria, dissolved oxygen, pH, tastes and odors, toxicity, and water temperature. Of these parameters, the Newcastle Development, where South Canal is located, was identified as containing aluminum levels that exceeded the aquatic benchmark in Mormon Ravine. That said, the reach of Mormon Ravine affected by the project is not listed as an impaired water body under section 303(d) of the Clean Water Act. Given this information, it appears that aquatic toxicity (specifically, aluminum levels) may be the largest water quality concern in the Newcastle Development, relatively speaking, and that water quality within the Newcastle Development generally meets the basin plan objectives.

[7] The basin plan referenced is the Central Valley Water Board's Fourth Edition of the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (FERC, 2014).

Environmental Effects

As proposed, no in-water work would take place in South Canal; however, some components of construction have the potential to: 1) mobilize sediment in disturbed areas; and 2) introduce contaminants such as fuels, oils, grease, and uncured concrete. If sediment or these contaminants came into contact with a waterway (such as Mormon Ravine) by way of a storm event after it flowed through South Canal or through a stormwater management facility, potential impacts to water quality could occur. To reduce the potential for this, PCWA would implement various BMPs aimed at controlling sediment at the worksite, managing stormwater, identifying, preventing and containing spills, and properly storing hazardous materials away from any waterbody. Details regarding these BMPs are detailed in Appendix A, but generally include: development of a stormwater pollution prevention plan, development of a spill prevention, containment, and cleanup plan, implementation of numerous sediment and erosion controls, stabilization of disturbed areas with vegetation following construction, refueling equipment at least 300 feet away from a water body (including South Canal when drained), and using non-treated wood products.

By constructing the facility in the dry and implementing numerous BMPs during construction as described above, the potential for adverse effects to water quality as a result of the proposed action is very low. If any adverse effects do occur, they should be minor and short-term.

D. Aquatic Resources

Affected Environment

The fish population in South Canal is known largely by means of voluntary fish rescues the licensee performs in conjunction with California DFW in Wise Forebay and Lower Wise Canal prior to annual canal outages, because no recent fish surveys have been conducted in South Canal.[8] Because Lower Wise Canal and Forebay eventually flow into South Canal by way of Wise Powerhouse Nos. 1 and 2, and no other water feeds South Canal, the licensee believes the results of its fish rescues conducted in Wise Forebay are representative of the fish community in South Canal. Those rescues have documented the following species: rainbow trout (*Onchorynchus mykiss*), brown trout (*Salmo trutta*), Saramento sucker (*Catostomus occidentalis*), bluegill (*Lepomis macrochirus*), smallmouth bass (*Micropterus dolomieu*), largemouth bass (*Micropterus salmoides*), and catfish species (*Ictaluridae spp.*), with rainbow and brown trout being

[8] The project license does not require the licensee to conduct fish monitoring in South Canal.

most dominant. Of these species, only rainbow trout and Sacramento sucker are native in adjacent drainages, and the rainbow trout are most likely of hatchery origin (California DFW stocks rainbow trout in upstream project reservoirs). All size classes of fish have been documented during the fish rescues in Lower Wise Canal and Wise Forebay, but most fish are less than four inches in length. The licensee notes in its May 7, 2019 filing that the adjacent Auburn Ravine, which South Canal crosses on the upstream end ("Upper Auburn Ravine"), contains critical habitat for federally-listed anadromous fish species in its lower reaches ("Lower Auburn Ravine"); however, South Canal does not receive water from Auburn Ravine, and therefore, none of the listed species that may utilize Auburn Ravine have ever been documented in South Canal. Furthermore, three miles downstream of where South Canal crosses Auburn Ravine is Auburn Ravine 1 Diversion Dam, which is highly difficult for anadromous fish to pass (Bailey & Buell, 2005), making it even less likely that listed fish species could access South Canal.

Of course, because there have not been any recent fish surveys on South Canal itself, the fish density in South Canal is poorly understood; however, the licensee believes it to be low compared to that of nearby streams based on anecdotal data, and lower than the population of Lower Wise Canal and Forebay. This is because only small fish can pass through the intake at both Wise powerhouses on the upstream end of South Canal and survive passage through the powerhouses and into South Canal (South Canal is exclusively fed by Wise Powerhouse), and there is nowhere else for fish to go once they leave Lower Wise Canal and Forebay and reach both Wise powerhouses. For the fish that are located in South Canal, habitat quality in South Canal is poor, due to the fact that it is a concrete-lined canal with no natural substrate or diversity in channel geomorphology.

Environmental Effects

Since construction of the facility will be done in the dry, aquatic resources will not be adversely affected by this component of the proposed action. The storm drain repairs will occur when water is present in South Canal; however, the repairs do not require any in-water work, and the scope of work is minimal. During these repairs, PCWA would implement best management practices that should reduce the potential for any minor, short-term effects to water quality that could potentially adversely affect fish in South Canal. These measures are discussed in more detail in *Section 5.2(c), Water Quality*.

Once the facility is operational, the potential exists for fish to be entrained or impinged at the entrance of the facility. According to the licensee, the approach velocity at the intake would be 0.8 feet per second (fps). The licensee recognizes that this exceeds the California DFW's criteria of an approach velocity of no more than 0.4 fps for anadromous salmonids; however, as indicated above, there is no evidence indicating that anadromous salmonids are present in South Canal, nor is it believed that they can access South Canal. Nevertheless, it is possible that the fish present in South Canal could

become entrained into the facility when it is operating. Because the facility is an alternate water supply point for PCWA, it would not be operating continuously; therefore, the effects to the fishery in South Canal are relatively lower than if the facility would be in constant operation. Further, it should be considered that there are no fish protection measures currently in place at the Wise Powerhouses (at the upstream end of South Canal), or at Newcastle Powerhouse (at the downstream end of South Canal), meaning fish in South Canal, many of which are surmised to be non-native or of hatchery-origin, are already subject to entrainment elsewhere on South Canal. Additionally, losses are likely already occurring in South Canal when it is drained in preparation for the annual outage. Nevertheless, the proposed action could result in minor, adverse effects to aquatic resources; however, these effects would be far outweighed by the annual draining of the canal. Furthermore, the proposed action should not adversely affect fish communities downstream of South Canal.

As previously mentioned, Article 39 of the project license requires the licensee to provide 5 cfs from South Canal to Mormon Ravine upstream of Newcastle Powerhouse year-round, except for during canal outages. The licensee would continue to meet this flow requirement once the facility is operational; therefore, Mormon Ravine would continue to receive the required flow and no effects to aquatic resources in Mormon Ravine are expected as a result of the proposed action.

E. Threatened and Endangered Species

Affected Environment

PCWA compiled a list of following species which are listed as either "Threatened" or "Endangered" under the Endangered Species Act (ESA) that either have a known presence or may be present due to suitable habitat within a 10-mile radius of the proposed action area.

Stebbins morning-glory (*Calystegia stebbinsii*) is listed as endangered under the ESA. Stebbins' morning-glory is a leafy herbaceous perennial found on gabbro or serpentine soils in chaparral or cismontane woodland habitats at elevations between 607 and 2,394 ft. msl. This species has a flowering period ranging from April to July.

Pine Hill ceanothus (*Ceanothus roderickii*) is listed under as endangered under the ESA. Pine Hill ceanothus is a perennial evergreen shrub found in gabbroic or serpentine soils in chaparral, or cismontane woodland habitats between 853 and 2,066 ft. msl. This species has a flowering period ranging from April to June.

Pine Hill flannelbush (*Fremontodendron decumbens*) is listed under as endangered under the ESA. Pine Hill flannelbush is a perennial evergreen shrub found in rocky

gabbro or serpentine soils in chaparral or cismontane woodland habitats between 1,394 and 2,492 ft. msl. This species has a flowering period ranging from April to July.

El Dorado bedstraw (*Galium californicum ssp. sierrae*) is listed under as endangered under the ESA. El Dorado bedstraw is a perennial herb found in chaparral, cismontane woodland habitats, and lower montane coniferous forest on grabbroic soils between 328 and 1,919 ft. msl. This species has a flowering period ranging from May to June.

Sacramento Orcott grass (*Orcuttia viscada*) is listed under as endangered under the ESA. Sacramento Orcott grass is an annual grass found in vernal pools between 98 and 328 ft. msl. This species has a flowering period ranging from April to July.

Hartweg's golden sunburst (*Pseudobahia bahiifolia*) is listed under as endangered under the ESA. Hartweg's golden sunburst is an annual herb found in rocky, bare areas, along rolling hills in open grasslands and grasslands at the margins of blue oak woodland. It prefers well-drained, fine textured soils on Mima mounds between 49 and 492 ft. msl. This species has a flowering period between March and April.

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is listed as threatened under the ESA. The Valley elderberry longhorn beetle has a life cycle of one to two years and spends most of its life cycle in the larval stage. It lays eggs on elderberry leaves or bark and hatch within two days and the emergent larvae live within the stems of the plants for one to two years. Adults emerge from late March through June from the stems through holes made by larvae prior to pupation and are short-lived. Its habitat includes riparian and oak woodlands below 3,000 ft. msl through the Central Valley and surrounding foothills.

California red-legged frog (*Rana aurora draytonii*) is listed as threatened under the ESA. California red-legged frog breeding occurs from late November to late April in ponds, backwater pools, and creeks. Egg masses attach to emergent vegetation such as cattails and bulrushes. Outside of the breeding season, adult California red-legged frog individuals can be found foraging and seeking shelter upstream, downstream, or upslope from breeding habitats. Individuals are usually found in perennial ponds or pools and perennial or seasonal streams where water remains for a minimum of 20 weeks beginning in the spring and there is dense emergent or shoreline riparian vegetation. Long-distance dispersal of California red-legged frog can occur up to one mile from suitable habitats. Preferred habitats include permanent and semi-permanent aquatic habitats, such as creeks and coldwater ponds with emergent and submergent vegetation and riparian vegetation along the edges.

Giant garter snake (*Thamnophis gigas*) is listed as threatened under the ESA. It prefers sloughs, canals, and other small waterways where there is a prey base of small

fish and amphibians. It requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter.

Environmental Effects

PCWA conducted field surveys in 2008 and 2009, which involved a general wildlife survey and habitat assessment, a botanical survey to document existing habitat conditions and determine whether the area contains any suitable habitat for the abovementioned species, and a characterization of biological communities and their associated wildlife habitat uses. Based on these surveys, combined with the fact that there is no prior record of these species being present in the area, PCWA determined that none of the plant species listed above occur in the project area. With regard to the wildlife species mentioned above, following the surveys, PCWA determined that these species have a low potential to occur in the area either due to a lack of suitable habitat or because the area is outside of their known ranges. Further, none of these species have ever been recorded in the project area. Based on all of this, no effect to these species or their habitat is expected as a result of the proposed action.

F. Recreation Resources

Affected Environment

There are no project recreation facilities located in the proposed action area. Outside of the project boundary, immediately surrounding the future location of the facility, consists of a PCWA pump station to the east, another municipality's wastewater treatment plant to the west and north, and eventually, a PCWA water treatment plant to the east, which do not offer recreation opportunities.

Environmental Effects

Because no recreation exists in the proposed action area, no effects to recreation are anticipated as a result of the proposed action.

G. Cultural Resources

Affected Resources

Definition of Cultural Resources, Historic Properties, Effects, and Area of Potential Effects

Historic properties are cultural resources listed or eligible for listing in the National Register. Historic properties can be buildings, structures, objects, districts (a term that includes historic and cultural landscapes) or sites (archaeological sites or locations of important events). Historic properties may also be resources of traditional religious and cultural importance to any living community; such as an Indian tribe or local ethnic group, that meet the National Register criteria; these properties are known as traditional cultural properties. For example, dilapidated structures or heavily disturbed archaeological sites, although they may retain certain historical or cultural values, not have enough integrity to be considered eligible.

Section 106 of the NHPA requires the Commission to evaluate potential effects on properties listed or eligible for listing in the National Register prior to an undertaking. An undertaking means a project, activity, or program funding in whole or in part under the direct or indirect jurisdiction of a federal agency, including, among other things, processes requiring a federal permit, license, or approval. Advisory Council on Historic Preservation (Advisory Council) regulations implementing section 106 define effects on historic properties as those that change characteristics that quality those properties for inclusion for the National Register. Determination of effects on historic properties requires identification of any historic properties in the "area of potential of effect" (APE). The Advisory Council's regulations define the APE as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.[9] For this undertaking, the APE includes lands within the project boundary as well as lands outside of the project boundary where project construction and/or operation may affect historic properties. The APE includes all access roads, laydown areas, and other locations required during construction and a 100-foot buffer around these areas.

To determine whether the proposed undertaking would adversely affect historic properties within the proposed action's APE, PCWA contracted a qualified architectural historian and archaeologist to conduct a records search, archival research and an archaeological survey under section 106 of the National Historic Preservation Act,[10] and its implementing regulations,[11] federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of

[9] 36 C.F.R. Section 800.16(d).

[10] 16 U.S.C. §§ 306108 et seq. (2016). The National Historic Preservation Act was recodified in Title 54 in December 2014.

[11] 36 C.F.R. Part 800 (2016).

Historic Places (defined as historic properties or National Register) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking.

PCWA contracted a qualified architectural historian and archaeologist to conduct a records search, archival research and an archaeological survey of the area of potential effect (APE) in 2008 and 2009. From these efforts, PCWA determined that there are no sensitive archaeological resources or historic resources present in the APE that would meet the criteria for listing in the National Register. During its consultation with the Corps for its Section 404 permit, PCWA provided its findings to the Corps, which then contacted the California SHPO for comments on the undertaking (i.e., proposed action) by letter dated May 4, 2010. In its May 4, 2010 letter, the Corps stated that the undertaking, which the Corps considers to be the construction and maintenance of the intake structure, would have no adverse effect on historic properties. On May 26, 2010, the California SHPO concurred with the Corps' determination.

Because the undertaking and APE, as defined by the Corps, encompass what is under also review by the Commission in this proceeding, Commission staff concur with the California SHPO's determination that the undertaking would not adversely affect historic properties.

Environmental Effects

Given the California SHPO's conclusion regarding the proposed action, the proposed action is not likely to have an adverse effect on cultural resources. However, in the event that construction results in a discovery of previously unidentified archaeological or historic properties, the licensee is required to cease work while the licensee consults with the California SHPO under Article 65 of the project license.

H. Aesthetics

Affected Environment

Western Placer County lies in a transitional zone between the Sacramento Valley and the foothills of the western slope of the Sierra Nevada range. The region is characterized by rolling hills and small valleys, with occasional rock outcrops. The proposed action area is not located on or near a scenic vista, a state or federal scenic highway, or any other officially designated scenic route.

Environmental Effects

As previously discussed, the facility would be constructed on South Canal and would be surrounded by existing facilities, including a wastewater treatment plant, pump station and transfer basin, and eventually, a water treatment plant, most of which are

owned and operated by PCWA. Therefore, the facility will not appear inconsistent with its surroundings. The storm drain repair work will not change the aesthetic value of the storm drain, as it is consistent with what is already present. For this reason, no adverse effects to aesthetic resources is expect to occur as a result of the proposed action.

5.3 Cumulative Impacts of Proposal

According to the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act, an action may cause cumulative impacts on the environment if its impacts overlap in space and/or in time with the impacts of other past, present, or reasonably foreseeable future actions, regardless of what agency or person undertakes such other action. Cumulative impacts can result from individually minor, but collectively significant actions. There are no expected cumulative impacts to any of the resource areas analyzed in this EA, and the proposed action would not result in the loss of any additional water from the project that could be used for project purposes than what is already occurring.

5.4 Impacts of No-Action Alternative

Under the no-action alternative, the licensee could not allow the licensee to grant PCWA approval to construct and operate the facility on South Canal. No-action would be a continuation of today's status quo; however, this would: 1) prevent the licensee from satisfying the terms of its Water Supply Agreement, which is critical for ensuring adequate water supply to PCWA's water users; and, 2) would be inconsistent with the historic multipurpose use of the project's infrastructure to deliver water for non-hydropower uses. There would be no environmental impacts within the Drum-Spaulding Project boundary from denying the proposed non-project use application.

6.0 CONCLUSIONS AND STAFF RECOMMENDATIONS

6.1 Conclusions

The proposed action would not result in significant environmental effects or significant cumulative impacts. The proposed action would not affect the existing licensed hydropower operations at the Drum-Spaulding Project and would not be in conflict with the hydropower project's purpose of providing a renewable energy source. Staff finds that the proposed action, with recommended measures, would result in insignificant, if any, adverse effects.

In its June 20, 2019 notice of intervention comments, the FWN states that under the proposed action, the licensee and the PCWA should take the opportunity provided by the redundancy in PCWA water delivery to offer year-round water releases into Auburn Ravine. To be clear, the licensee is not proposing to release flows to South Canal for use by PCWA during its annual outages that would allow supplemental flows to Auburn

Ravine. Rather, during outages, PCWA would utilize the facility to pump water from a nearby PCWA transfer basin into South Canal for use by other PCWA facilities downstream. No component of the proposed action would result in an increased withdrawal of water from the project by PCWA than what is already occurring. So, while PCWA would have access to water during the annual canal outage, it would not be by means of the licensee releasing it through South Canal. For these reasons, Commission staff conclude that the requiring the licensee to provide year-round flows to Auburn Ravine is outside of the scope of the proposed action.

6.2 Staff Recommendations

Staff recommends that the Commission approve the licensee's application for non-project use of project lands and waters for the proposed water withdrawal facility and storm drain repairs with the following staff recommended measure:

(a) Should any archaeological or historical artifacts be discovered during construction, pursuant to Article 65 of the project's license, the licensee must cease construction and consult with the California SHPO and any tribes that might attach cultural significance to the cultural resources. If the resource is found to be eligible for the National Register the licensee, in consultation with the California SHPO and tribes, shall develop measures to mitigate or avoid any adverse effects.

Approval and implementation of the proposed action with this staff recommended measure would have no significant adverse effects on any environmental resources analyzed in this EA. Also, the proposed action would not produce or significantly add to any existing cumulative environmental impacts. Based on our analysis, we recommend that the proposed action be approved.

6.3 Finding of No Significant Impact

The licensee's request to allow the PCWA's use of the Drum-Spaulding Project lands and waters for the: 1) proposed construction of a raw water intake facility that would withdraw up to 62 mgd from South Canal and serve as an alternate water withdrawal point, thereby not exceeding the current allowable amount of water to be withdrawn from the Drum-Spaulding Project under the Water Supply Agreement; and, 2) repair of an existing storm drain facility, with the agencies and Commission staff recommended protective measures, would not constitute a major federal action significantly affecting the quality of the human environment.

7.0 LITERATURE CITED

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8.0 LIST OF PREPARERS

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APPENDIX A

Placer County Water Agency's Summary of Mitigation Measures and Monitoring Conditions as Shown in April 8, 2019 Filing

Agency/ Permit	Mitigation-Monitoring Condition	Timing	Reporting Requirement	Inspection Requirement	Resource Topic
PCWA	**Minimize Air Quality Impacts** The Proposed Project will comply with Placer County requirements regarding engine idling and equipment maintenance. PCWA's construction specifications will require all construction equipment to be properly maintained and operated, that the idling of construction equipment be minimized for all diesel-power equipment, and that low sulfur fuel be used for stationary construction equipment. At a minimum, watering will be conducted as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction. All trucks hauling soil, sand, or other loose material will be covered or required to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer). Unpaved access roads, parking areas, and staging areas will be paved, watered daily (as needed), or treated with a non- toxic soil stabilizer. Exposed stockpiles (dirt, sand, etc.) would be covered, watered as needed, or treated with a non-toxic soil stabilizer. Traffic speeds on unpaved access roads would be limited to 15 miles per hour. All paved access roads, parking areas, and staging areas would be swept daily (with water sweepers). If any visible soil material is carried onto adjacent public streets, these areas would be swept daily (with water sweepers) PCWA's construction specifications would require the project contractor to designate a person or persons to oversee the implementation of the dust control program to comply with the PCAPCD's Rules 202 and 228 and to increase watering or	During construction	Compliance with the applicable specifications identified in PCAPCD rules and regulations	PCWA construction inspector will ensure compliance with the measure during construction inspections	Air Quality

Agency/ Permit	Mitigation-Monitoring Condition	Timing	Reporting Requirement	Inspection Requirement	Resource Topic
	implement additional measures, as necessary.				
PCWA	**Construct Outside of Nesting Season or Conduct Pre-Construction Raptor Nesting Surveys** To avoid disturbance of raptor breeding and nesting activity, including nesting of sensitive raptors, project activities will be avoided during the typical raptor breeding season of March through August, to the extent feasible. If construction must take place during the typical nesting season, preconstruction surveys will be conducted by a qualified biologist no more than 7 days prior to initiation of proposed activities, including vegetation removal, staging, and grading of access roads. Surveys will be conducted to determine if active nesting is occurring on or near the study area. If active nests are found within the survey area, survey results will be submitted to CDFW and consultation will be initiated with CDFW to determine appropriate avoidance measures. If no nesting is found to occur, necessary tree removal and other project activities could then proceed.	Prior to construction.	If active nests are found within the survey area, survey results will be submitted to CDFW and consultation will be initiated with CDFW to determine appropriate avoidance measures.	None	Special status species
PCWA	**Protect Cultural Resources** Should any buried archeological materials be uncovered during project activities, such activities shall cease within 100 feet of the find. Prehistoric archeological indicators include: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic and metal objects; milled and split lumber; and structure and feature remains such as	Implement during construction activities	Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human grave. If human graves are encountered, work should halt in the vicinity and the Placer County Coroner should be notified immediately. At the same time, an archaeologist should be contacted to evaluate the find. If human remains are of Native American origin, the Coroner	The construction contractors would implement these cultural resource specifications as a condition of the construction contract. Successful compliance with the construction specifications would be monitored by PCWA.	Cultural Resources

Agency/ Permit	Mitigation-Monitoring Condition	Timing	Reporting Requirement	Inspection Requirement	Resource Topic
	building foundations, privy pits, wells and dumps; and old trails. The project construction specifications will require the selected construction contractor to notify PCWA of a discovery and a professional archeologist shall be retained to evaluate and document the find. Project-related activities shall not resume within 100 feet of the find until all the find has been satisfactorily documented.		must notify the Native American Heritage Commission within 24 hours of this identification		
PCWA	Construction activities would comply with all PCWA construction standards. BMPs, such as the following, would be followed to reduce the risk of soil erosion and pollutant discharge. Vegetation removal would be limited to the minimum amount necessary to accommodate the Proposed Project. As the permanent vegetation cover is maturing, temporary vegetation or other erosion control measures sufficient to stabilize the soil would be established on all disturbed areas. New planting would be protected by using such measures as jute netting, straw mulching and fertilizing. Temporary erosion control measures, such as silt fences, staked straw bales, and temporary revegetation, would be employed for disturbed areas. No disturbed surfaces would be left without erosion control measures in place during the winter and spring months. Sediment would be retained on-site by a system of sediment basins, traps, or other appropriate measures.	Prior to and during construction	Implementation of erosion control measures	PCWA construction inspector will ensure compliance with on site monitoring	Geological Resources
PCWA	Construction activities would comply With the Placer County Noise Ordinance. BMPs, such as the following, would be followed to reduce the risk of construction noise impacts.	During construction	Compliance with construction Specifications and noise ordinance	PCWA construction inspector will ensure compliance with the	Noise Impacts

Agency/ Permit	Mitigation-Monitoring Condition	Timing	Reporting Requirement	Inspection Requirement	Resource Topic
	Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds, wherever feasible); Trucks shall be prohibited from idling along residential streets serving the construction site; Spotters or flaggers in clear view of the operator may be used instead of backup beepers to direct the backing operation of mobile equipment when there is no public access to a construction site. This is allowed, if approved by OSHA, per the requirements of Title 8, Section 1592 of the California Administrative Code; Construction contractors shall be required to use "quiet" gasoline-powered compressors or other electric-powered compressors, to the maximum extent feasible, and to use electric rather than gasoline or diesel powered forklifts for small lifting should such equipment be required; Should they be required for project construction, stationary noise sources, such as temporary generators, shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent feasible; and Should they be required for project construction, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the			measure during construction	

Agency/ Permit	Mitigation-Monitoring Condition	Timing	Reporting Requirement	Inspection Requirement	Resource Topic
	exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.				
RWQCB/ Section 401 Water Quality Certification	PCWA shall submit a Commencement of Construction Report at least seven (7) days prior to start of any work within waters of the US.	At least seven (7) days prior to start of any work within waters of the US	Commencement of in water work		Water Quality
RWQCB/ Section 401 Water Quality Certification	PCWA shall submit a Request for Notice of Completion of Discharges Letter following completion of active Project construction activities, including any required restoration and permittee-responsible mitigation. This request shall be submitted to the Central Valley Water Board staff within thirty (30) days following completion of all Project construction activities. Upon acceptance of the request, Central Valley Water Board staff shall issue a Notice of Completion of Discharges Letter to PCWA which will end the active discharge period and associated annual fees.	Within thirty (30) days following completion of all Project construction activities	Request for Notice of Completion of Discharges Letter		Water Quality
RWQCB/ Section 401 Water Quality Certification	PCWA shall submit a Request for Notice of Project Complete Letter when construction and/or any post-construction monitoring is complete, and no further Project activities will occur. Completion of post-construction monitoring shall be determined by Central Valley Water Board staff and shall be contingent on successful attainment of restoration and mitigation performance criteria. This request shall be submitted to Central Valley Water Board staff within thirty (30) days following completion of all Project activities. Upon approval of the request, the Central Valley Water Board staff shall issue a Notice of Project Complete Letter to PCWA which will end the post discharge monitoring period and associated annual fees.	Within thirty (30) days following completion of all Project activities	Request for Notice of Project Complete Letter		Water Quality

Agency/ Permit	Mitigation-Monitoring Condition	Timing	Reporting Requirement	Inspection Requirement	Resource Topic
RWQCB/ Section401 Water Quality Certification	Notifications and reports as appropriate. See WQ Certification for details and timing	During and/or Following Project Completion	Accidental Discharges of Hazardous Materials; Violation of Compliance with WQ Standards; In-Water Work & Diversions; Project Modifications; Transfer of Property Ownership; Transfer of Property Ownership		Water Quality
RWQCB/ Section 401 Water Quality Certification	Continuous visual surface water monitoring shall be conducted during active construction periods to detect accidental discharge of construction related pollutants (e.g. oil and grease, turbidity plume, or uncured concrete). PCWA shall perform surface water sampling: a. when performing any in-water work; b. in the event that the Project activities result in any materials reaching surface waters; or c. when any activities result in the creation of a visible plume in surface waters.	During Construction	See WQ Certification for specific reporting requirements.	Continuous during active construction periods	Water Quality
RWQCB/ Section 401 Water Quality Certification	PCWA shall obtain coverage under the National Pollutant Discharge Elimination System (NPDES) permit for dewater activities that result in discharges into surface waters and /or Obtain Waste Discharge Requirements for dewatering activities that result in discharges to land from the Central Valley Water Board.	During Construction	None	None	Water Quality
RWQCB/ Section 401 Water Quality Certification	PCWA shall obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Land Disturbance Activities Order No. 2009-0009-DWQ, as amended, for Discharges to surface waters comprised of storm water associated with construction activity, including, but not limited to, demolition, clearing, grading, excavation, and other land disturbance activities of one	Prior to Project Construction	None	None	Water Quality

Agency/ Permit	Mitigation-Monitoring Condition	Timing	Reporting Requirement	Inspection Requirement	Resource Topic
	or more acres, or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres. During construction phase, PCWA must employ strategies to minimize erosion and introduction of pollutants into storm water runoff. These strategies must include the following: The SWPPP must be prepared during the project planning and design phases and before construction. An effective combination of erosion and sediment control Best Management Practices (BMPs) must be implemented and adequately working prior to the rainy season and during all phases of construction. PCWA must minimize the short and long-term impacts on receiving water quality from the Project by implementing the following post- construction storm water practices: Minimize the amount of impervious surface; Reduce peak runoff flows; Provide BMPs to reduce pollutants in runoff; Ensure existing waters of the State (e.g. wetlands, vernal pools, or creeks) are not used as pollutant source controls and/or treatment controls;				
RWQCB/ Section 401 Water Quality Certification	PCWA shall grant Central Valley Water Board staff, or an authorized representative (including an authorized contractor acting as a Water Board representative), upon presentation of credentials and other	Before, During and After Construction	None	As required by CVRWQCB	Water Quality

Agency/ Permit	Mitigation-Monitoring Condition	Timing	Reporting Requirement	Inspection Requirement	Resource Topic
	documents as may be required by law, permission to: a. Enter upon the Project or compensatory mitigation site(s) premises where a regulated facility or activity is located or conducted, or where records are kept. b. Have access to and copy any records that are kept and are relevant to the Project or the requirements of this Order. c. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order. d. Sample or monitor for the purposes of assuring Order compliance.				
RWQCB/ Section 401 Water Quality Certification	A copy of the WQ Certification shall be provided to any consultants, contractors, and subcontractors working on the Project. Copies of Certification shall remain at the Project site for the duration of the Certification. PCWA shall be responsible for work conducted by its consultants, contractors, and any subcontractors. A copy of this Order must be available at the Project site(s) during construction for review by site personnel and agencies. All personnel performing work on the Project shall be familiar with the content of this Order and its posted location at the Project site.	During Construction	None	None	Water Quality
RWQCB/ Section 401 Water Quality Certification	**Good Site Management/ "Housekeeping"** PCWA shall develop and maintain onsite a project-specific Spill Prevention, Containment and Cleanup Plan outlining the practices to prevent, minimize, and/or clean up potential spills during construction of the Project. The Plan must detail the Project elements, construction equipment types and location, access and staging and construction sequence. The Plan must be made	During Construction	Provide Spill Prevention, Containment and Cleanup Plan to CVRWQCB upon request.		Water Quality

Agency/ Permit	Mitigation-Monitoring Condition	Timing	Reporting Requirement	Inspection Requirement	Resource Topic
	available to the Central Valley Water Board staff upon request. Refueling of equipment within the floodplain or within 300 feet of the waterway is prohibited. If critical equipment must be refueled within 300 feet of the waterway, spill prevention and countermeasures must be implemented to avoid spills. Refueling areas shall be provided with secondary containment including drip pans and/or placement of absorbent material. No hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, or other construction-related potentially hazardous substances should be stored within a floodplain or within 300 feet of a waterway. PCWA must perform frequent inspections of construction equipment prior to utilizing it near surface waters to ensure leaks from the equipment are not occurring and are not a threat to water quality. Asphalt, drilling fluids, lubricants, paints, coating material, oil, petroleum products, or any other substances which could be hazardous to fish and wildlife resulting from or disturbed by project-related activities, shall be prevented from contaminating the soil and/or entering surface waters. Surface water that contacts wet concrete must be pumped out and disposed of at an appropriate off-site commercial facility, which is authorized to accept concrete wastes. Creosote-treated wood products or any other treated wood products that are highly flammable and/or toxic to aquatic life shall not be installed in surface waters. A method of containment must be used below bridge(s), boardwalk(s), and/or temporary crossing(s) to prevent debris from falling into the water body as feasible. All materials resulting from the Project shall be removed from the site and disposed of properly.				

Agency/ Permit	Mitigation-Monitoring Condition	Timing	Reporting Requirement	Inspection Requirement	Resource Topic
RWQCB/ Section 401 Water Quality Certification	Prior to arrival at the project site and prior to leaving the project site construction equipment that may contain invasive plants and/or seeds shall be cleaned to reduce the spread of noxious weeds.	During Construction	None	None	Water Quality
RWQCB/ Section 401 Water Quality Certification	**Sediment Control** Except for activities permitted by the United States Army Corps of Engineers under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses. Silt fencing, straw wattles, or other effective management practices must be used along the construction zone to minimize soil or sediment along the embankments from migrating into the waters of the state through the entire duration of the Project. The use of netting material (e.g., monofilament-based erosion blankets) that could trap aquatic dependent wildlife is prohibited within the Project area.	During and After Construction	None	None	Water Quality
RWQCB/ Section 401 Water Quality Certification	**Stabilization/Erosion Control** All areas disturbed by Project activities shall be protected from washout and erosion. Hydroseeding shall be performed with California native seed mix.	During Construction	None	None	Water Quality
RWQCB/ Section 401 Water Quality Certification	**Storm Water** During the construction phase, PCWA must employ strategies to minimize erosion and the introduction of pollutants into storm water runoff. These strategies must include an effective combination of erosion and sediment control Best Management Practices (BMPs). BMPs must be implemented and adequately working	During all Phases of Construction	None	None	Water Quality

Agency/ Permit	Mitigation-Monitoring Condition	Timing	Reporting Requirement	Inspection Requirement	Resource Topic
	prior to the rainy season and during all phases of construction. Minimize the short and long-term impacts on receiving water quality by implementing post-construction stormwater management practices.				
RWQCB/ Section 401 Water Quality Certification	**Compensatory Mitigation** As PCWA is fulfilling its compensatory mitigation obligations by securing credits from an approved mitigation bank, PCWA needs only include the items described in 40 CFR section 230.94(c)(5)-(6), and the name of the specific mitigation bank to be used as a statement of its Compensatory Mitigation Plan. A copy of the fully executed agreement for the purchase of mitigation credits shall be provided to the CVRWQCB prior to the initiation of in-water work	Prior to initiation of in-water work.	Provide fully executed mitigation credit purchase agreement to CVRWQCB	None	Water Quality
USACE/ Section 404 NWP No. 5 and 7	PCWA must comply with all terms and conditions of NWP 5 and 7.	During and after construction .	Compliance Certification	As requested by the USACE.	Waters of the United States