



Pajaro Valley
Water Management Agency

BASIN MANAGEMENT PLAN IMPLEMENTATION STRATEGY

SEPTEMBER 2016



09/14/2016



PAJARO VALLEY WATER MANAGEMENT AGENCY

BMP IMPLEMENTATION STRATEGY

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1.0 INTRODUCTION

The Pajaro Valley Water Management Agency (Agency) adopted a Basin Management Plan Update (BMP) in 2014. The BMP includes seven programs and projects to balance the Pajaro Valley groundwater basin and halt seawater intrusion. Three of the programs and projects - Conservation, Increased Recycled Water Deliveries, and Increased Recycled Water Storage at Treatment Plant - are currently being implemented and take advantage of approximately \$8 million in grant and low interest loan funding awarded to the Agency through Department of Water Resources (DWR) Proposition 50, DWR Proposition 84, SWRCB Proposition 1, SWRCB State Revolving Fund, and United States Bureau of Reclamation (USBR) Title XVI programs.

The purpose of this BMP Implementation Strategy is to outline specific actions and decisions needed through fiscal year 2018-2019 to move forward with the implementation of the remaining four projects - College Lake Diversion with Inland Pipeline to CDS, Harkins Slough Recharge Facilities Upgrades, Watsonville Slough Diversion with Recharge Basins with Recharge Basins, and Murphy Crossing Diversion with Recharge Basins. Since implementation activities for Murphy Crossing Diversion with Recharge Basins are expected to commence after June 2019, only an updated 10-year schedule for the project is included in the plan.

The BMP Implementation Strategy was developed through two workshops by an Agency team consisting of the following individuals:

- Rosemarie Imazio, PVWMA Board Chair.
- Amy Newell, PVWMA Board Vice Chair.
- Warren Koenig, Ex-Officio Board Member.
- Mary Bannister, General Manager.
- Brian Lockwood, Senior Water Resources Hydrologist.
- Chuy Martinez, Water System Operations Supervisor.
- Teresa Delfino, Administrative Services Manager.
- Lauren Valk, Agency General Counsel.
- Lou Carella, Engineering Consultant.
- Paul Friedlander, Engineering Consultant.
- Lidia Gutierrez, Funding Consultant.
- Alison Imamura, Environmental Consultant.
- Gary Kittleson, Wildlife Biologist Consultant.

- Alan Lilly, Water Rights Special Counsel.
- Mike Podlech, Fisheries Consultant.

The BMP Implementation Strategy is intended to supplement the implementation section of the BMP. Project details from the BMP are not repeated in this document; the reader is referred to the BMP for additional project background.

The Agency intends to hire a program management (PM) consultant to oversee and guide the BMP Implementation Strategy. The PM consultant will be responsible for:

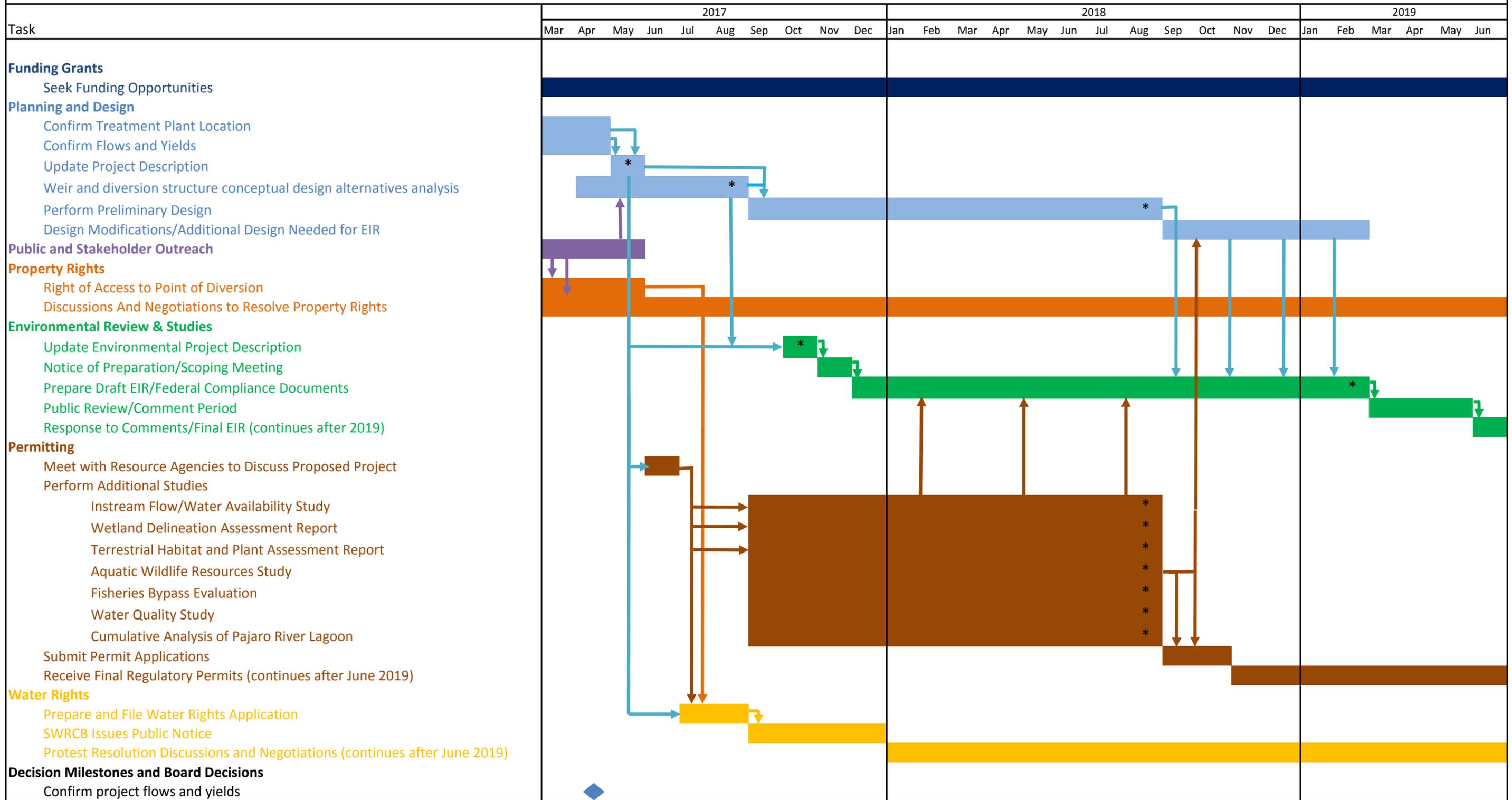
- Further defining the program components including all planning and preliminary design to support environmental documentation, water rights, permitting, property rights and funding tasks;
- Completing environmental documentation, permitting, property rights, and funding tasks as identified for each project;
- Managing related water rights, public outreach, environmental and financing tasks being performed by other agency consultants;
- Coordinating with and supporting Agency staff administrative, financial, and technical work related to the BMP implementation, including assisting in the development of memos and presentations for the Board of Directors and stakeholders;
- Developing strategies to streamline the program implementation,
- Identifying opportunities for cost savings, and
- Initiating pertinent strategies throughout the planning, design, and environmental documentation phases that would lead to the successful implementation of the projects.

The program management consultant services will extend through the duration of the implementation strategy (estimated June 2019). With successful performance, the Agency may amend the agreement to include additional services, as needed, during the implementation, and may extend the agreement to continue the services through the next phase of implementation.

2.0 COLLEGE LAKE DIVERSION WITH INLAND PIPELINE TO CDS

A two-year implementation work flow diagram for College Lake Diversion with Inland Pipeline to CDS is shown in Figure 1, with additional details given in the following sections. An updated implementation plan through 2024 is shown in Figure 2. Budgetary costs for activities through fiscal year 2018-2019 are summarized in Table 1.

Figure 1 College Lake Diversion with Pipeline to CDS - 2 Year Implementation Strategy Work Flow Diagram



* = Deliverable

Figure 2 College Lake Diversion with Pipeline to CDS - Implementation Plan Through 2024

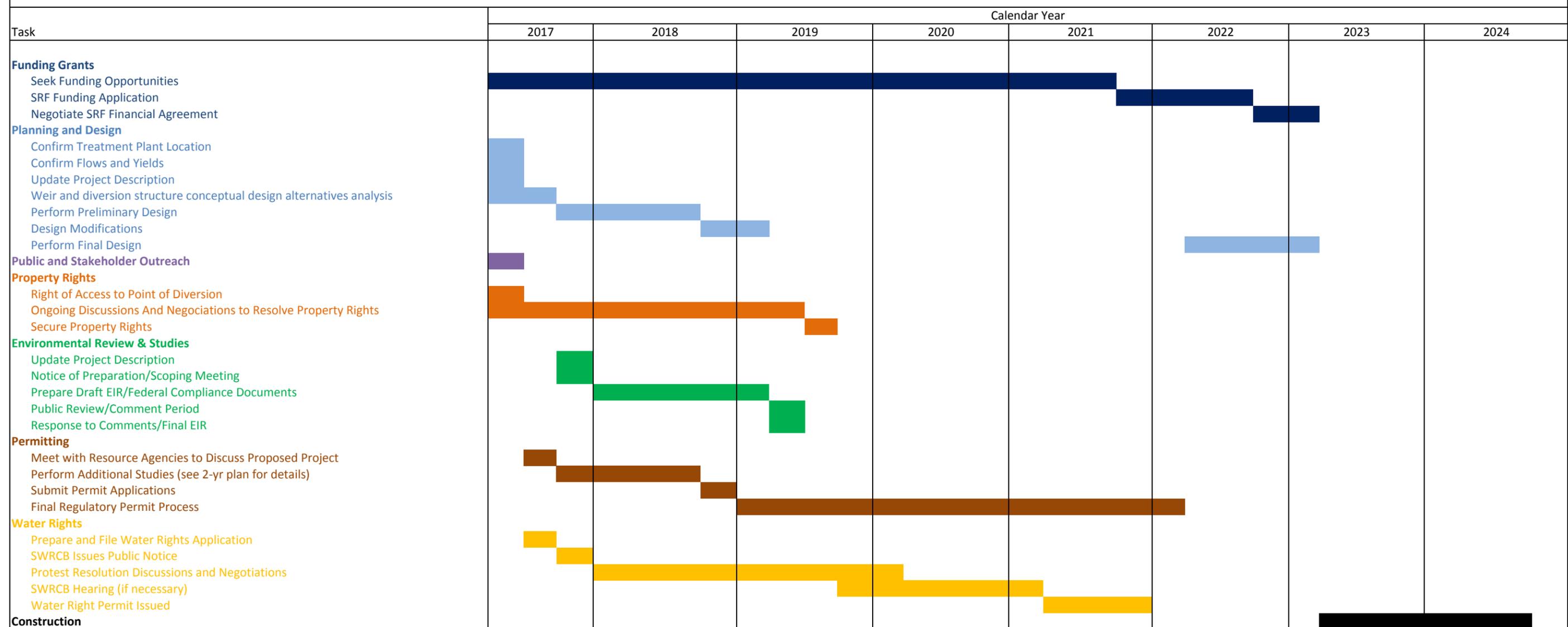


Table 1 College Lake Diversion With Inland Pipeline to CDS Project Estimated Costs Through June 2019 BMP Implementation Strategy Pajaro Valley Water Management Agency	
Category	Estimated Cost
Planning And Design	
Confirm Flows And Yields, Update Project Description	\$20,000
Weir And Diversion Structure Conceptual Design Alternatives Analysis	\$100,000
Preliminary Design	\$600,000
Design Modifications Needed For EIR	\$200,000
Public And Stakeholder Outreach	\$60,000
Property Rights	
Discussions And Negotiations To Resolve Property Rights	\$200,000
Environmental Review	
Update Environmental Project Description, Develop Assumptions	\$20,000
Notice Of Preparation/Scoping Meeting/EIR Scoping	\$30,000
Prepare Draft EIR	\$400,000
Federal Compliance Documents For CEQA-Plus ⁽¹⁾	\$180,000
Public Review/Comment Period	\$30,000
Response to Comments/Final EIR (Assumes Average Number and Extent of Comments)	\$40,000
Public Hearing And Staff Report, Including Resolution, Findings	\$50,000
Permitting	
Meet With Resource Agencies	\$30,000
Instream Flow / Water Availability Study ⁽²⁾	\$30,000
Wetland Delineation/Assessment Report	\$20,000
Terrestrial Habitat And Plant Assessment Report	\$30,000
Aquatic Wildlife Resources Study	\$35,000
Fisheries Bypass Evaluation	\$25,000
Cumulative Analysis of Pajaro River Lagoon (Applies To All Projects Combined)	\$75,000
Water Quality Study (Pinto Lake Interactions)	\$30,000
Submit Permit Applications	\$50,000
Final Regulatory Permit Approval Process	\$150,000
Water Rights (Excluding Water Availability Study)	\$100,000
Funding	\$75,000
Program Management	\$200,000
Total	\$2,800,000
Notes:	
(1) Assumes a brief Air Quality Conformity Memorandum, two (2) Biological Assessments, NHPA Section 106 Report, and Environmental Package for SWRCB Funding Application.	
(2) Hydrologic analyses pertinent to this task have been funded and are currently ongoing. Cost estimate reflects the potential for additional analyses that may be required pending the outcome of the current studies.	
(3) Total estimated project costs in 2016 dollars are \$35,600,000.	

2.1 Planning and Design

Project flows and yields and the treatment plant location will be confirmed in March and April 2017 to provide an updated project description in May 2017 to commence permitting activities, environmental review, and the water rights application. A weir and diversion structure conceptual design alternatives analysis will be performed from April to August 2017. Preliminary design of the facilities will begin in September 2017 and be completed by August 2018 to provide additional details for ongoing permitting and environmental tasks. It is anticipated that design modifications and additional design will be needed as a result of the Environmental Impact Report (EIR) process, and will occur from September 2018 through February 2019. Final design will be performed after 2021 following completion of the permitting process.

Key Decisions: Confirm project flows and yields, April 2017

Deliverables: Updated project description, May 2017

Weir and diversion structure conceptual design alternatives analysis,
August 2017

Preliminary Design Report, August 2018

2.2 Public and Stakeholder Outreach

The goal of this task is to engage with landowners, Reclamation District No. 2049 (also known as the College Lake Reclamation District) and other interest groups, as well as the community at large. Strategies will focus on informing stakeholders, increasing understanding of key issues, and establishing draft terms of agreement and frameworks for negotiation of property rights.

Specific sub-tasks will include development of project messaging; development and execution of direct engagement plan to reach stakeholders (strategies may include phone, email, mail, social media and meetings/events); proactive and reactive local media outreach; development of support materials such as fact sheets and FAQ; and strategic counsel to PVWMA project team.

2.3 Property Rights

The Agency will need to obtain rights to access and use at the point of diversion, the inundation area, the treatment plant site and along the pipeline alignment to the Coastal Distribution System (CDS). The Agency's water right application will need to describe the Agency's plan to acquire these rights. The Agency will begin to develop this plan in March 2017. At the same time, the Agency will begin discussions and negotiations with affected property owners to attempt to resolve the property rights issues.

The decision on what type of property right to obtain will depend on, among other things, characteristics of the proposed use and negotiations with landowners. Once the type of property right desired is determined, the Agency will work with landowners to develop and

execute agreements to secure those rights. The Agency will need to obtain legal descriptions and appraisals for each property right acquired.

2.4 Environmental Review

The first step of College Lake Diversion with Inland Pipeline to CDS environmental review process is completion and public distribution of a Notice of Preparation of an Environmental Impact Report (EIR) in November 2017. PVWMA and their team would then prepare for and conduct an environmental scoping meeting later in November 2017. The College Lake Diversion with Inland Pipeline to CDS project-level EIR may be a focused EIR that tiers from the BMP EIR and uses the BMP EIR for non-controversial issues, for addressing alternatives to the project, growth inducement, and cumulative analyses; however, based on the Settlement Agreement with Release (“Agreement”) with Reclamation District No. 2049, dated May 2014, the project must be subject to a project-level EIR. The key issues in the EIR will be in the areas of agricultural resources, biological resources (aquatic and terrestrial wildlife, plants and habitats), hydrology and water quality, and groundwater resources.

In addition to the local approvals and state permits, PVWMA intends to apply for grants and loans, including a State Revolving Fund (SRF) loan through the State Water Resources Control Board (SWRCB) – Division of Financial Assistance. The SRF loan is partially funded by the U.S. Environmental Protection Agency (EPA); therefore, compliance with federal environmental regulations (referred to as, CEQA-Plus) is required, including compliance with the following: Clean Air Act, Endangered Species Act (ESA), Coastal Zone Management Act, Farmland Protection Policy Act, NHPA, Magnusen-Stevens Fishery Conservation and Management Act, and Migratory Bird Treaty Act. The key federal compliance documents for CEQA-Plus would include the following: Air Quality Conformity Memorandum, two Biological Assessments (one for species regulated by USFWS and one for anadromous fish by NMFS), NHPA Section 106 Report, and Environmental Package for SWRCB that can include reporting for the other federal regulations. A coastal development permit may be required for the pipeline component of this project because it extends into the Coastal Zone and thus, the EIR would include a consistency analysis with Santa Cruz County Local Coastal Program, and Coastal Act policies and regulations.

Preparation of the draft EIR would begin in December 2017 and be completed in February 2019. Key input required for the EIR will include project definition information for analyses, agency coordination, data, analysis, and conclusions from the environmental studies discussed in the permitting section below (costs for these studies are included in estimated permitting costs). It is anticipated that the EIR process would result in modifications to the project design, and these modifications would be made prior to the completion of the draft EIR. The public review and comment period for the draft EIR would occur from March through May 2019.

Deliverables: Notice of Preparation, October 2017
Air Quality Conformity Memorandum, May 2018
Biological Assessment for NMFS ESA Section 7 Consultation, June 2018
Biological Assessment for USFWS ESA Section 7 Consultation,
September 2018
NHPA Section 106 Report, June 2018
Environmental Package for SWRCB Funding Application (Draft: August
2018 and Final November 2018)
Draft EIR, February 2019

2.5 Permitting (other than Water Rights)

Agency staff and consultants will meet with the regulatory resource agencies to present the updated project description, and discuss the project and additional studies in June 2017. The additional studies, including an instream flow/water availability study, wetland delineation assessment, terrestrial habitat and plant assessment study, aquatic wildlife resources study, fisheries bypass evaluation, cumulative Pajaro River lagoon study, and a water quality study related to inter-related effect of the project on downstream water quality in Corralitos Creek and the Pajaro River, are anticipated to begin in September 2017 and be completed in August 2018.

Following completion of the studies, the Agency anticipates submitting permit applications September to October of 2018. The process of permit review and resolution is expected to extend beyond June 2019.

The permitting process will begin by Agency staff and/or their consultants informally discussing the project with environmental regulatory agency representatives. In addition, the PVWMA team will prepare the permit applications identified above in signature ready format. The Agency will be responsible for agreeing to and finalizing the permit conditions, executing the permits, and paying permit application fees. A description of permit application submittal and review resolution or application completeness process, and consultant responsibilities are described below for each specific permit required.

Appendix A shows the permitting and authorizations anticipated to be required to implement the College Lake Diversion with Inland Pipeline to CDS, including the following key processes that are expected to require the above-listed studies and analyses prior to submitting permit applications or during permit processing:

- *USACOE - Clean Water Act Section 404 Permit (33 USC 1341)*. Agency consultants will determine whether the project can apply for a nationwide permit or if an individual permit is required. Following this determination agency consultant will assemble the application package, which will include the required form, project information, and preliminary Wetland Delineation report. USACOE will review the application for completeness, and if the application is incomplete, request additional information

within 15 days. The USACOE will decide on all applications no later than 60 days after receipt of a complete application. Agency consultants will provide any additional information requested by the USACOE until they have determined the application complete.

- *USFWS - Fish and Wildlife Coordination Act compliance (16 USC 661-667e; the Act of March 10, 1934; ch 55; 48 stat. 401) and USFWS and NMFS- Consultation/Coordination under Endangered Species Act (ESA, Section 7 consultation).* This consultation/coordination process is initiated by the federal action agency, for example, the SWRCB- Division of Financial Assistance and/or the U.S. Environmental Protection Agency as the federal lead for the Clean Water SRF. As discussed previously in the environmental review section, this permit process would require preparation and submittal of a Biological Assessment for evaluating effects on federally-listed species.
- *CDFW – Lake or Streambed Alteration Agreement (Fish & Game Code Section 1602).* For the College Lake Diversion with Inland Pipeline to CDS, a Lake and Streambed Alteration Agreement would be necessary, the Agency and/or their consultant will prepare and submit a notification to CDFW. CDFW will determine whether the notification package is complete within 30 calendar days of receipt. Following an iterative process to achieve a complete notification package, CDFW has 60 days to submit a draft agreement. The draft agreement will include measures to protect fish and wildlife resources while conducting the project. After receiving the draft agreement, the Agency consultant will have 30 calendar days to notify CDFW whether the measures in the draft agreement are acceptable. The Agency consultant will review the measures to ensure they are compatible with project goals and objectives. Once Agency consultants have reached consensus with CDFW as to the format and content of the measures, the Agency will sign the agreement and submit it to the CDFW. After the CDFW receives the signed draft agreement, it will make it final by signing. The permit will not be issued until CDFW has confirmed receipt of the notification fee and the approved CEQA document.
- *CDFW – Incidental Take Permit (California Endangered Species Act (CESA) Section 2081).* While section 2080 of the Fish and Game Code prohibits take of any species that the commission determines to be endangered or threatened, CESA allows for take incidental to otherwise lawful activity through section 2081(b) of the Fish and Game Code. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project-caused losses of listed species populations and their essential habitats. For those state-listed species that are also listed under the federal Endangered Species Act, CESA allows for consistency determinations with federal incidental take statements under section 2080.1 of the Fish and Game Code. This task is only necessary if the biological analysis determines that there is the potential

for “take” of a state-listed species as a result of the project and the budget estimate excludes this task. Although this permit is not currently anticipated to be required, it may be at the time of implementation.

- *Santa Cruz County and, potentially, Coastal Commission – Coastal Development Permits (PRC Section 30000 et seq.)* The College Lake Diversion with Inland Pipeline to CDS would potentially require a Coastal Development Permit due to the location of the CDS pipeline, within the Coastal Zone in an area with an approved Local Coastal Land Use Plan. The process would include submittal of an application to the County, review by the County, iterative coordination to achieve a complete application, followed by consideration of the project by the County. Note: the decision by the County is appealable to the Coastal Commission.
- *SWRCB – Division of Water Rights, or Regional Water Quality Control Board (RWQCB) - 401 Water Quality Certification (WQC) and National Pollutant Discharge Elimination System and/or Waste Discharge Requirements (WDRs) for Construction.* Projects involving discharges of dredged or fill material into waters of the United States, including wetlands and other water bodies, that require a Section 404 permit also require a Section 401 permit. The Agency consultants will prepare and submit a Section 401 permit application for SWRCB or RWQCB approval. Typically, projects involving SWRCB Water Rights, also require the SWRCB to process the Section 401 permit.
- *State Historic Preservation Officer - Section 106 of the NHPA (16 USC 470).* The compliance document needed to commence the required consultation in NHPA Section 106 is described in *Environmental Review* above. The federal action agency would be the entity to consult with the State Historic Preservation Office and the Native American Tribal entities based on information provided in the applicant-submitted Section 106.

Deliverables: Instream Flow / Water Availability Study, August 2018
 Wetland Delineation/Assessment Report, August 2018
 Terrestrial Habitat and Plant Assessment Report, August 2018
 Aquatic Wildlife Resources Study, August 2018
 Fisheries Bypass Evaluation, August 2018
 Cumulative Analysis of Pajaro River Lagoon (applies to all projects
 combined), August 2018
 Water Quality Study, August 2018
 Permit Application, October 2018

2.6 Water Rights

The Agency anticipates preparing a water rights application beginning in July 2017 and filing the application with the State Water Resources Control Board in August 2017.

Preparation of the application will require the following information:

- General project description.
- Point or points of diversion.
- Locations of pumps and wells.
- Place of use.
- Purpose of use.
- Maximum instantaneous direct diversion and re-diversion rates (cfs).
- Maximum annual diversion (afy).
- Season of diversion.
- Maximum amount of water to be stored.
- College Lake inundation area map.
- College Lake stage-area and stage-capacity curves.
- Topographic map of College Lake and other facilities.
- Plan for acquiring necessary property rights.

This information will be included in an updated engineering project description, with the exception of the plan for acquiring the property rights, which will be developed and implemented as described in Section 2.3. It is recommended that Agency staff meet with State Water Resources Control Board and resource agencies staffs before completing the water rights application, to give them opportunities to provide input on the draft application.

It is expected that, following receipt of the water rights application, the State Water Resources Control Board will issue a public notice of the application in late 2017. After the deadline for filing protests has passed, the Agency will be meeting with the protestors to discuss potential resolutions of their protests. However, some protests may not be resolved until after the Agency completes its CEQA document, and a State Water Resources Control Board hearing may be necessary if some protests cannot be resolved.

2.7 Funding

The Agency has been very successful in obtaining both grants and low-interest loans for planning, design, and construction of facilities to assist in carrying out its charter. Given the approximate \$2.8 million fee estimate for planning, design, and environmental permitting and documentation, the Agency will likely seek funding for the work. Unfortunately, there is limited grant funding available for pre-construction activities. However, the State Water Resources Control Board (SWRCB) Clean Water State Revolving Fund (CWSRF) does

offer low interest financing for pre-construction activities. The primary benefit of the CWSRF is the cost savings due to reduced interest rates. The CWSRF financing (at a 2 percent interest rate) can amount to a 24 percent grant-subsidy when compared to obtaining a 20-year market loan using conventional funding (at a 5 percent interest rate) as shown in Table 2. The interest rate is set at 1/2 of the most recent General Obligation (GO) Bond Rate at the time of funding approval. The current interest rate is 1.7 percent, offering a significant savings over current market interest rates. However, there are additional financing and administrative requirements and costs associated with CWSRF financing that should be considered when securing financing from the program.

		SRF Rate					
		0.0%	1.0%	2.0%	3.0%	4.0%	5.0%
Market Rate	4.0%	47%	25%	17%	9%	0%	-9%
	5.0%	38%	31%	24%	16%	8%	0%
	6.0%	43%	36%	30%	23%	16%	8%
	7.0%	47%	41%	35%	29%	22%	15%

Source: http://www.swrcb.ca.gov/water_issues/programs/grants_loans/srf/

In addition to the financial benefit, working with the SWRCB throughout the planning, design and environmental documentation process could position the Agency for a streamlined application and approval of an SRF Construction loan. There is no maximum limit to the amount of financing offered through the SRF program, so the College Lake Diversion with Inland Pipeline to CDS with an estimated project cost of \$35.6 million in 2016 dollars financed over a term of 20 years at the current SRF rate provides an estimated \$8 million cost savings over traditional financing. If the Agency secured an SRF construction loan, the repayment of the planning funds could be incorporated into the new construction loan repayment schedule. Additionally, the Agency will consider completing the College Lake Diversion with Inland Pipeline to CDS environmental documentation in compliance with the SRF Federal cross-cutting measures to position for SRF construction funding without requiring significant additional environmental analysis.

If the Agency chooses to pursue an SRF planning loan, the application should be submitted as soon as possible to include the reimbursement of the costs currently being incurred on the project. Typically, it will take approximately nine months to secure an SRF Planning Financial Agreement.

There may be additional funding opportunities during the project development phase including Proposition 1 funding from SWRCB and DWR, WaterSMART funding from USBR, and other State and Federal programs. These opportunities will continue to be monitored and considered for College Lake Diversion with Inland Pipeline to CDS funding.

2.8 Estimated Costs for Activities through June 2019

Table 1 summarizes budgetary costs for the project activities through June 2019.

3.0 HARKINS SLOUGH RECHARGE FACILITIES UPGRADES

A two-year implementation work flow diagram for Harkins Slough Recharge Facilities Upgrades is shown in Figure 3, with additional details given in the following sections. An updated implementation plan through 2024 is shown in Figure 4. Budgetary costs for activities through fiscal year 2018-2019 are summarized in Table 3.

3.1 Planning and Design

The proposed pipeline routing and the need for coagulant facilities will be confirmed March through May 2017 to provide an updated project description in June 2017 for permitting activities, property rights, and environmental review. A diversion structure conceptual design alternatives analysis will be performed from March through July 2017, and a recharge basin hydrogeologic study will be performed from March through August 2017 to provide information necessary for the project preliminary design as well as for permitting activities, property rights, and environmental review. Preliminary design of the facilities will begin in December 2017 and be completed in May 2018 to provide additional details for ongoing permitting and environmental tasks. It is anticipated that design modifications and additional design will be needed as a result of the EIR process, and will occur from June through November 2018. Final design will be performed after June 2019 following completion of the permitting process.

Deliverables: Updated project description, June 2017

Diversion structure conceptual design alternatives analysis, July 2017

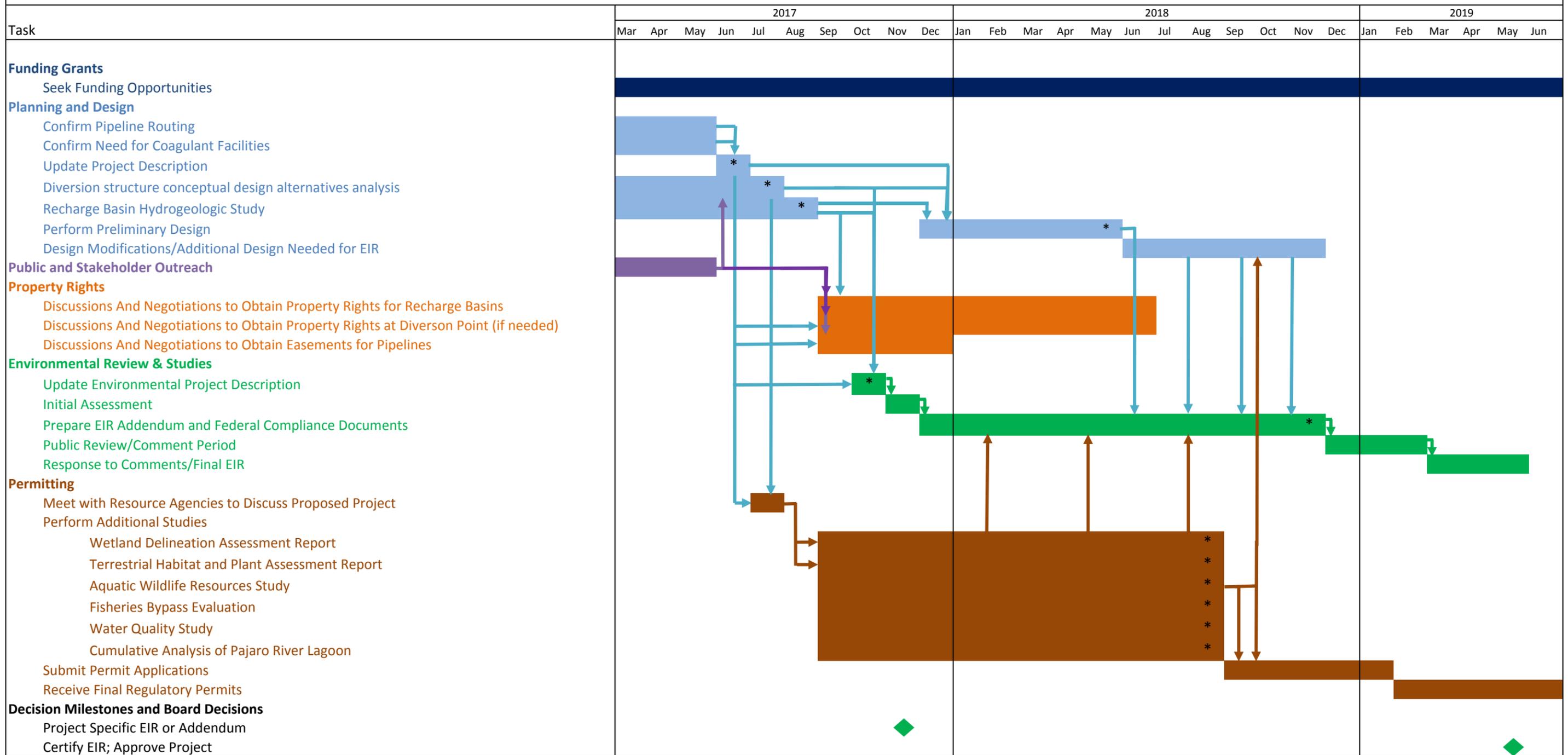
Recharge basin hydrogeologic study, August 2017

Preliminary Design Report, May 2018

3.2 Public and Stakeholder Outreach

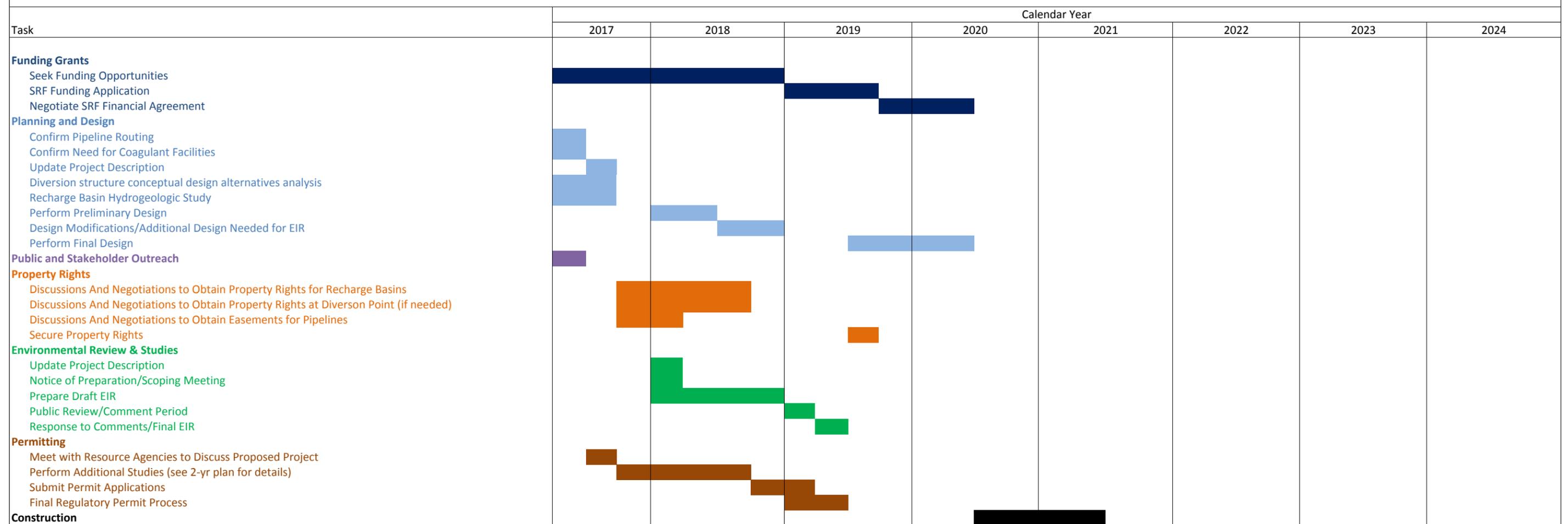
The goal of this task is to engage with stakeholders and the community at large to increase awareness and understanding of the project, within the context of successful execution of the project's permitting requirements. Specific sub-tasks include development of messaging; development and execution of direct engagement plan to reach stakeholders (strategies may include phone, email, mail, social media and meetings/events); proactive and reactive local media outreach; development of support materials such as fact sheets and FAQ; and strategic counsel to PVWMA project team.

Figure 3 Harkins Slough Recharge Project Upgrades - 2 Year Implementation Strategy Work Flow Diagram



* = Deliverable

Figure 4 Harkins Slough Recharge Project Upgrades - Implementation Plan Through 2024



3.3 Property Rights

Property rights will be required for the recharge basins, pipelines, and the point of diversion (if the point of diversion is different than the current location). The Agency will begin discussions and negotiations to resolve property rights issues in September 2017, with a goal of securing all necessary property rights following certification of the EIR in 2019. The decision on what type of property right to obtain will depend on, among other things, characteristics of the proposed use and negotiations with landowners. The Agency will need to obtain legal descriptions and appraisals for each property right acquired.

3.4 Environmental Review

A revised environmental project description will be prepared in October 2017 based on the updated engineering project description. An initial environmental review using an Initial Study Checklist would be conducted to determine whether revisions to the Harkins Slough Recharge Facilities Upgrades would require a new (supplemental or subsequent) EIR¹ or whether the project can be approved using an addendum to the BMP EIR.

For this report, it is assumed that an Addendum would be prepared to present the rationale for why construction and operation of the Harkins Slough Recharge Facilities Upgrades would not result in a new significant impact, nor result in an impact that would be substantially more severe than the impacts disclosed in the BMP EIR. Pursuant to CEQA Guidelines Section 15464, it is assumed that:

- No new or previously unidentified adverse significant impacts would result from the construction and operation of the Harkins Slough Recharge Facilities Upgrades other than those identified in the BMP EIR.
- The proposed Harkins Slough Recharge Facilities Upgrades would not result in a substantial increase in the severity of the impacts identified in the BMP EIR.

PVWMA's Board of Directors will consider the Addendum, along with the certified BMP EIR, prior to making a decision on any approvals pertaining to the proposed Harkins Slough Recharge Facilities Upgrades, pursuant to CEQA Guidelines Section 15164.

Key input required for the Addendum to the EIR will include data and conclusions from the environmental studies discussed in the permitting section below. In addition to the Addendum described above, documentation for compliance with CEQA-Plus is required to be completed because PVWMA intends to apply for grants and loans, including a SRF loan through the SWRCB – Division of Financial Assistance. The SRF loan is partially funded by

¹ A subsequent or supplemental EIR would be required if the Harkins Slough would involve a new significant impact, or an impact that is substantially more severe than the impacts disclosed in the BMP EIR; however, for the purpose of this ISP, it is assumed that only minor additions or changes to the Harkins Slough Recharge Facilities Upgrades would be needed such that these conditions would not occur and the project would be able to be approved by PVWMA relying upon an Addendum to the EIR.

the U.S. EPA; therefore, compliance with federal environmental regulations would be required, including the Clean Air Act, Endangered Species Act, the Coastal Zone Management Act, NHPA, and others. The key federal compliance documents for CEQA-Plus would include a brief Air Quality Conformity Memorandum, two (2) Biological Assessments (one for species regulated by USFWS and one for anadromous fish by NMFS), NHPA Section 106 Report, and Environmental Package for SWRCB that includes reporting required for the other federal regulations². A coastal development permit will be required for this project because it extends into the Coastal Zone and thus, the Addendum would include a consistency analysis with Santa Cruz County and Coastal Act policies and regulations. The addendum to the draft EIR will be prepared beginning in December 2017 and will be completed in February 2019. Prior to approval of the Harkins Slough Recharge Facilities Upgrades, SWRCB - Division of Financial Assistance requires that the local agency provide a two-week public notice of the proposed approval and use of an Addendum.

Key Decisions: Prepare project-specific EIR or Addendum, November 2017

Deliverables: Air Quality Conformity Memorandum, September 2018
Biological Assessment for NMFS ESA Section 7 Consultation, September 2018
Biological Assessment for USFWS ESA Section 7 Consultation, September 2018
NHPA Section 106 Report, August 2018
Environmental Package for SWRCB Funding Application (Draft: August 2018 and Final November 2018)
Draft Addendum to the EIR, November 2018

3.5 Permitting (other than Water Rights)

Agency staff and consultants will meet with the regulatory resource agencies to present the updated project description, and discuss the project and additional studies in July 2017. Additional studies, including those described above for the federal compliance processes (i.e., NHPA, ESA), wetland delineation, aquatic and terrestrial resources studies, fisheries resources study, water quality study, and use of the cumulative Pajaro River Lagoon and Estuarine Study described above for the College Lake Diversion with Inland Pipeline to CDS are anticipated to begin in September 2017 and be completed in approximately August 2018.

Following completion of the studies, the Agency anticipates submitting permit applications September 2018 to January of 2019. The process of permit review and resolution is expected to extend until June 2019. The Harkins Slough Recharge Facilities Upgrades

² These federal compliance documents would be used to receive federal authorizations described in the permitting section, below.

would require: Clean Water Act Sections 404 and 401, USFWS and NMFS Consultation under Section 7 of the Endangered Species Act, CDFW Lake or Streambed Alteration Agreement, CDFW Incidental Take Permit, Coastal Development Permit, SWRCB-Division of Water Rights or RWQCB 401 Certification and National Pollutant Discharge Elimination System and or/ WDRs for Construction, NHPA Section 106 consultation (see College Lake Diversion with Inland Pipeline to CDS above for a description of these permits and their processes). The Harkins Slough Recharge Facilities Upgrades would not necessarily require a new or amended water rights process; however, intensive resource agency coordination is expected due to existing operational issues with the Harkins Slough Diversion pump station. For example, if any of the permits or environmental review processes require approval by the resource agencies (USFWS, NMFS, CDFW, or RWQCB), the existing condition will require remedy prior to achieving positive permitting outcomes.

Deliverables: Wetland Delineation/Assessment Report, August 2018
Terrestrial Habitat and Plant Assessment Report, August 2018
Aquatic Wildlife Resources Study, August 2018
Fisheries Resources Study, August 2018
Cumulative Analysis of Pajaro River Lagoon (applies to all projects combined), August 2018
Water Quality Study, August 2018
Draft Permit Application for Submittal - Fall 2018

3.6 Water Rights

The Agency already has a water right permit for this project and the Agency does not anticipate that it will need to obtain any changes to this permit.

3.7 Funding

Given the approximate \$1.5 million fee estimate for planning, design, and environmental permitting and documentation for the Harkins Slough Recharge Facilities Upgrades, the Agency will likely seek SRF planning funds for the pre-construction work as described in the College Lake Diversion with Inland Pipeline to CDS funding section. If the Agency chooses to pursue an SRF Planning loan, the application should be submitted as soon as possible to include the reimbursement of the costs currently being incurred on the project. If acceptable to SWRCB, the Agency should consider one planning application including all of the BMP projects to reduce application costs and streamline the review and approval process.

Consistent with the College Lake Diversion with Inland Pipeline to CDS funding strategy, working with the SWRCB throughout the planning, design and environmental documentation process could position the Agency for a streamlined application and approval of an SRF Construction loan. The Harkins Slough Recharge Facilities Upgrades, with an estimated construction cost in 2016 dollars of \$6.6 million dollars financed over a term of 20 years at the current SRF rate provides an estimated \$1.5 million cost savings

over traditional financing. If the Agency secured an SRF construction loan, the repayment of the planning funds could be incorporated into the new construction loan repayment schedule. Additionally, the Agency will consider completing the Harkins Slough Recharge Facilities Upgrades environmental documentation in compliance with the SRF federal cross-cutting measures to position for SRF construction funding without requiring significant additional environmental analysis.

There may be additional funding opportunities during the project development phase including Proposition 1 funding from SWRCB and DWR, WaterSMART funding from USBR, and other State and Federal programs. These opportunities will continue to be monitored and considered for Harkins Slough Recharge Facilities Upgrades funding.

3.8 Estimated Costs for Activities through June 2019

Table 3 summarizes budgetary costs for the project activities through June 2019.

4.0 WATSONVILLE SLOUGH DIVERSION WITH RECHARGE BASINS

A two-year implementation strategy work flow diagram for Watsonville Slough Diversion with Recharge Basins is shown in Figure 5, with additional details given in the following sections. An updated implementation plan through 2024 is shown in Figure 6. Budgetary costs for activities through fiscal year 2018-2019 are summarized in Table 4.

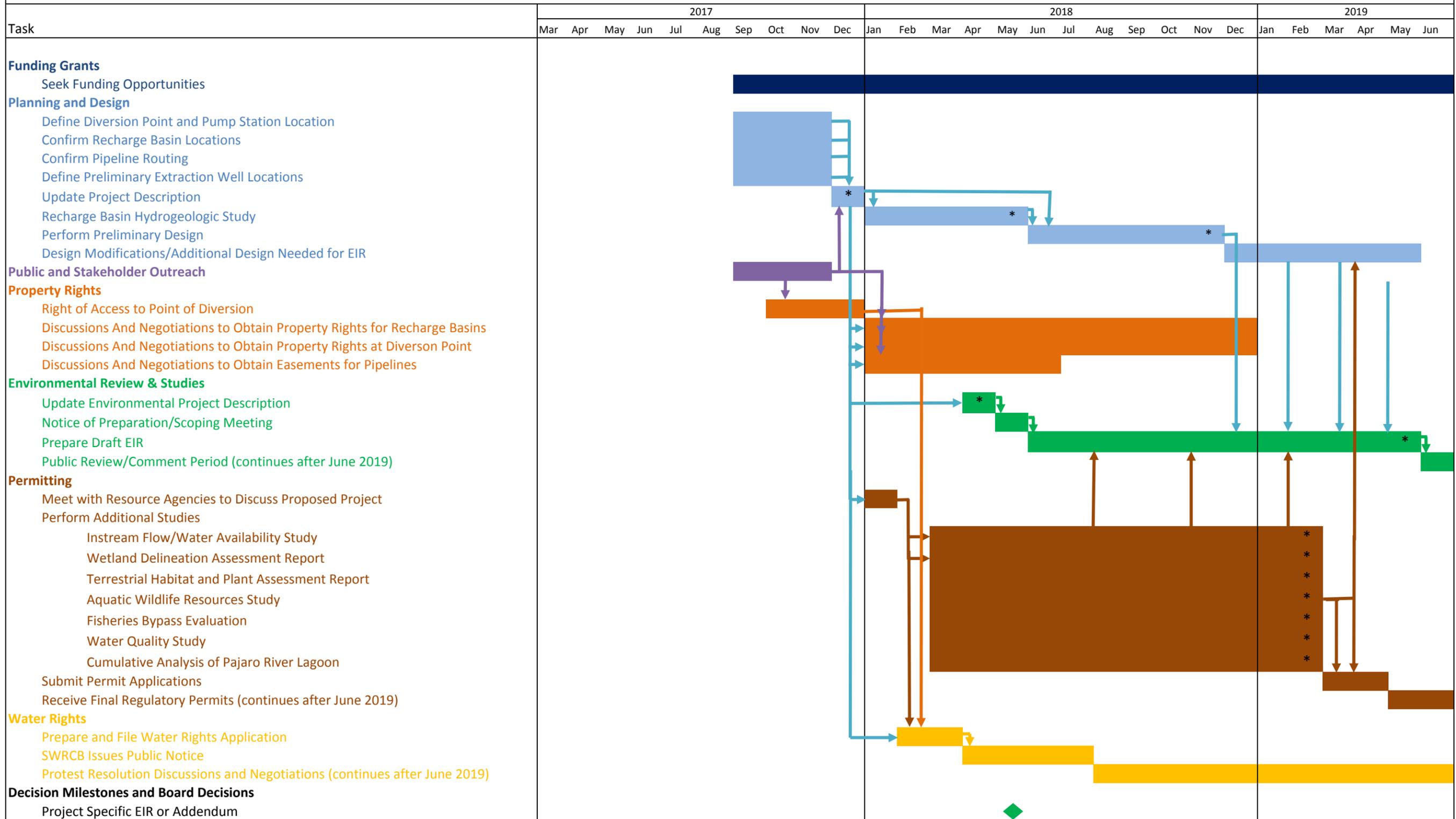
4.1 Planning and Design

The project diversion point, pump station location, recharge basin locations, pipeline routing, and preliminary extraction well locations will be confirmed September through November 2017 to provide an updated project description in December 2017 for permitting activities, property rights, environmental review, and the water rights application. A recharge basin hydrogeologic study will be performed from January to May 2018 to provide information necessary for the project preliminary design. Preliminary design of the facilities will begin in June 2018 and be completed by November 2018 to provide additional details for ongoing permitting and environmental tasks. It is anticipated that design modifications and additional design will be needed as a result of the EIR process, and will occur from December 2018 through May 2019. Final design will be performed after June 2019 following completion of the permitting process.

Deliverables: Updated project description, December 2017
Recharge Basin Hydrogeologic Study, May 2018
Preliminary Design Report, November 2018

Table 3 Harkins Slough Recharge Facilities Upgrades Project Estimated Costs through June 2019 BMP Implementation Strategy Pajaro Valley Water Management Agency	
Category	Estimated Cost
Planning and Design	
Confirm Project Parameters, Update Project Description	\$50,000
Diversion Structure Conceptual Design Alternatives Analysis	\$100,000
Recharge Basin Hydrogeologic Study	\$300,000
Preliminary Design	\$150,000
Design Modifications Needed for EIR	\$100,000
Public and Stakeholder Outreach	\$35,000
Property Rights	
Discussions And Negotiations to Obtain Property Rights	\$50,000
Environmental Review	
Update Environmental Project Description, Develop Assumptions	\$20,000
Prepare Draft Addendum to the EIR	\$40,000
Federal Compliance Documents for CEQA-Plus ⁽¹⁾	\$130,000
Public Hearing and Staff Report, including Resolution, Findings	\$35,000
Permitting	
Meet with Resource Agencies	\$50,000
Wetland Delineation/Assessment Report	\$20,000
Terrestrial Habitat and Plant Assessment Report	\$30,000
Aquatic Wildlife Resources Study	\$35,000
Cumulative Analysis of Pajaro River Lagoon (applies to all projects combined)	Included under College Lake project
Water Quality Study (Pinto Lake interactions)	\$30,000
Submit Permit Applications	\$20,000
Final Regulatory Permit Approval Process	\$75,000
Funding	\$75,000
Program Management	\$100,000
Total	\$1,450,000
Notes:	
(1) Assumes a brief Air Quality Conformity Memorandum, two (2) Biological Assessments, NHPA Section 106 Report, and Environmental Package for SWRCB Funding Application.	
(2) Total estimated project costs in 2016 dollars are \$6,600,000.	

Figure 5 Watsonville Slough Diversion with Recharge Basins - 2 Year Implementation Strategy Work Flow Diagram



* = Deliverable

Figure 6 Watsonville Slough Diversion with Recharge Basins - Implementation Plan Through 2024

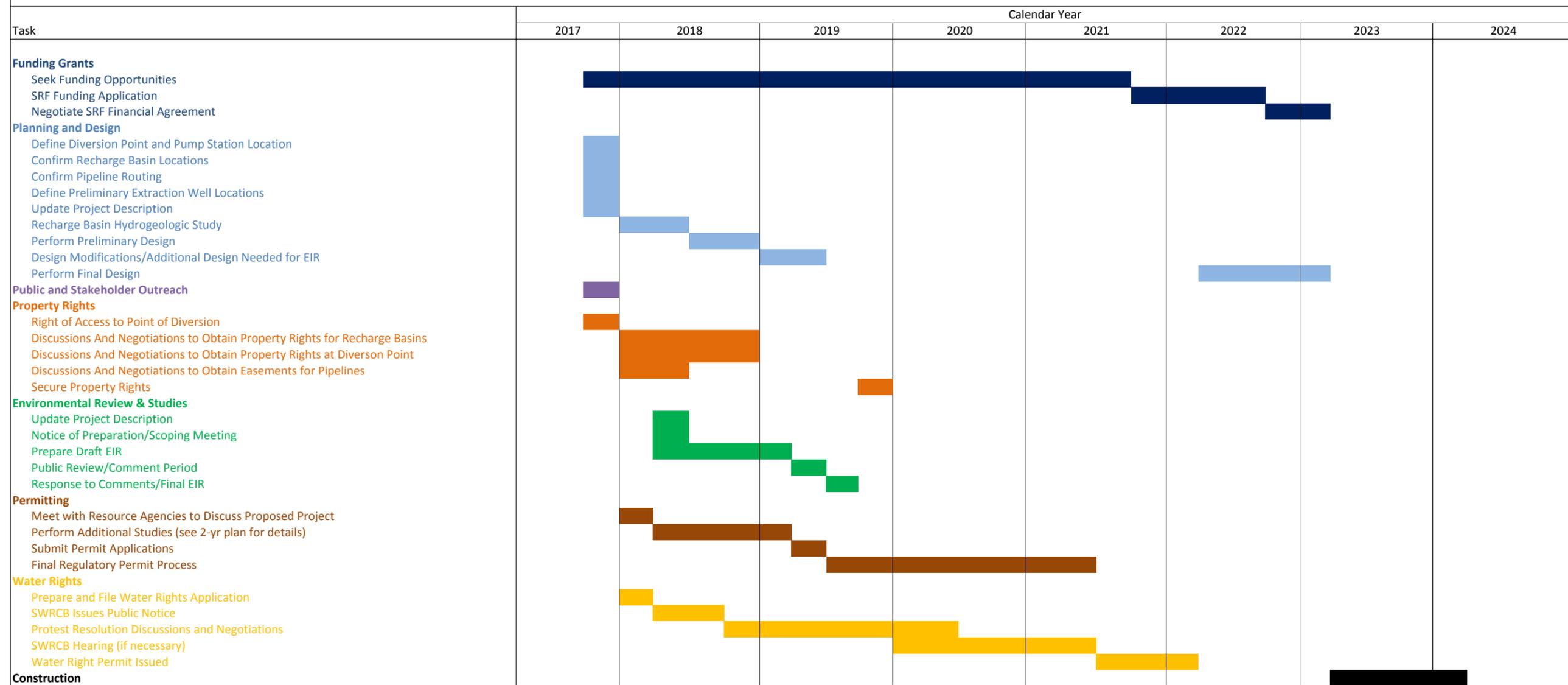


Table 4 Watsonville Slough Diversion with Recharge Basins Estimated Costs through June 2019 BMP Implementation Strategy Pajaro Valley Water Management Agency	
Category	Estimated Cost
Planning and Design	
Confirm Project Parameters, Update Project Description	\$20,000
Recharge Basin Hydrogeologic Study	\$100,000
Preliminary Design	\$300,000
Design Modifications Needed for EIR	\$100,000
Public and Stakeholder Outreach	\$45,000
Property Rights	
Discussions And Negotiations to Obtain Property Rights	\$50,000
Environmental Review	
Update Environmental Project Description, Develop Assumptions	\$20,000
Notice of Preparation/Scoping Meeting/EIR Scoping	\$30,000
Prepare Draft EIR	\$400,000
Federal Compliance Documents for CEQA-Plus (two Biological Assessments, NHPA Section 106 Report, and Environmental Package for SWRCB)	\$180,000
Public Review/Comment Period - Meeting Preparation/Materials	\$30,000
Permitting	
Meet with Resource Agencies	\$25,000
Instream Flow / Water Availability Study	\$30,000
Wetland Delineation/Assessment Report	\$20,000
Terrestrial Habitat and Plant Assessment Report	\$30,000
Aquatic Wildlife Resources Study	\$25,000
Fisheries Resources Study	\$30,000
Cumulative Analysis of Pajaro River Lagoon (applies to all projects combined)	Included under College Lake project
Submit Permit Applications	\$20,000
Final Regulatory Permit Approval Process	\$40,000
Water Rights (excluding water availability study)	\$75,000
Funding	\$75,000
Program Management	\$130,000
Total	\$1,800,000
Notes:	
(1) Total estimated project costs in 2016 dollars are \$16,600,000.	

4.2 Public and Stakeholder Outreach

The goal of this task is to engage with stakeholders and the community at large to increase awareness and understanding of the project, within the context of successful execution of the project's permitting, property rights and water rights requirements. Specific sub-tasks include development of messaging; development and execution of direct engagement plan to reach stakeholders (strategies may include phone, email, mail, social media and meetings/events); proactive and reactive local media outreach; development of support materials such as fact sheets and FAQ; and strategic counsel to PVWMA project team.

4.3 Property Rights

The Agency will need to obtain rights to access and use the point of diversion, recharge basins and pipelines. The Agency's water right application will need to describe the Agency's plan to acquire these rights. The Agency will begin to develop this plan in October 2017. At the same time, the Agency will begin discussions and negotiations with affected property owners to attempt to resolve the property rights issues, with a goal of securing all necessary property rights by the end of 2019.

The decision on what type of property right to obtain will depend on, among other things, characteristics of the proposed use and negotiations with landowners. Once the type of property right desired is determined, the Agency will work with landowners to develop and execute agreements to secure those rights. The Agency will need to obtain legal descriptions and appraisals for each property right acquired.

4.4 Environmental Review

The environmental review process Watsonville Slough Diversion and Recharge Basin project would mirror that of the College Lake Diversion with Inland Pipeline to CDS with the first step being completion and public distribution of a Notice of Preparation of an Environmental Impact Report (EIR) in May 2018. PVWMA and their team would then prepare for and conduct an environmental scoping meeting later in May 2018. The Watsonville Slough Diversion and Recharge Basin project could tier from the BMP EIR in that it is possible for the project-level EIR to be a focused EIR with limited discussion of non-controversial issues; however, as it is expected that the proposed diversion and other facilities may require a project-level EIR to support water rights application and environmental permits³. The key issues in the EIR will be in the areas of agricultural resources, biological resources (aquatic and terrestrial wildlife, plants and habitats), hydrology and water quality, and groundwater resources. To the extent possible, issues

³ An Addendum to the EIR may be required if the Watsonville Slough Diversion and Recharge Basin Project would involve no new significant impact, or no impacts that are substantially more severe than the impacts disclosed in the BMP EIR.

such as traffic/circulation, cumulative impacts, alternatives, growth inducement, and others would tier from the BMP EIR.

Preparation of the draft EIR will begin in approximately June 2018 and be completed in May 2019. Key input required for the EIR will include project definition information for analyses, agency coordination, data, analysis, and conclusions from the environmental studies discussed in the permitting section below. It is anticipated that the EIR process will result in modifications to the project design, and these modifications will need to be made prior to the completion of the draft EIR.

In addition to the local approvals and state permits, PVWMA intends to apply for grants and loans, including a SRF loan through the SWRCB – Division of Financial Assistance. The SRF loan is partially funded by the U.S. EPA; therefore, compliance with federal environmental regulations (referred to as, CEQA-Plus) would be required, including compliance with the following: Clean Air Act, Endangered Species Act, Coastal Zone Management Act, Farmland Protection Policy Act, NHPA, Magnusen-Stevens Fishery Conservation and Management Act, and Migratory Bird Treaty Act. The key federal compliance documents for CEQA-Plus would include a brief Air Quality Conformity Memorandum, two (2) Biological Assessments (one for species regulated by USFWS and one for anadromous fish by NMFS), NHPA Section 106 Report, and Environmental Package for SWRCB that can include reporting for the other federal regulations. A coastal development permit will be required for this project because it lies within the Coastal Zone and thus, the EIR would include a consistency analysis with Santa Cruz County Local Coastal Program, and Coastal Act policies and regulations.

Key Decisions: Prepare project-level EIR, May 2018

Deliverables: Notice of Preparation, May 2018

Air Quality Conformity Memorandum, August 2018

Biological Assessment for NMFS ESA Section 7 Consultation, September 2018

Biological Assessment for USFWS ESA Section 7 Consultation, October 2018

NHPA Section 106 Report, September 2018

Environmental Package for SWRCB Funding Application (Draft: September 2018 and Final December 2018)

Draft EIR, May 2019

4.5 Permitting (other than Water Rights)

Agency staff and consultants will meet with the regulatory resource agencies to present the updated project description, and discuss the project and additional studies in January 2018. Additional studies, including those described above for the federal compliance processes (i.e., NHPA, ESA), wetland delineation, aquatic and terrestrial resources studies, fisheries impact analysis, water quality study, and use of the cumulative Pajaro River Lagoon and

Estuarine Study described above for the College Lake Diversion with Inland Pipeline to CDS and Watsonville Slough Diversion biological assessments are anticipated to begin in March 2018 and be completed in February 2019.

Following completion of the studies, the Agency anticipates submitting permit applications March to April 2019. The process of permit review and approval is expected to extend beyond June 2019. The Watsonville Slough Diversion with Recharge Basins would require: Clean Water Act Sections 404 and 401, CDFW Lake or Streambed Alteration Agreement, USFWS and NMFS Consultation under Section 7 of the Endangered Species Act, CDFW Incidental Take Permit, Coastal Development Permit, SWRCB-Division of Water Rights or RWQCB 401 Certification and National Pollutant Discharge Elimination System and/or WDRs for Construction, NHPA Section 106 consultation (see College Lake Diversion with Inland Pipeline to CDS above for a description of these permits and their processes).

Deliverables: Instream Flow / Water Availability Study, February 2019
Wetland Delineation/Assessment Report, February 2019
Terrestrial Habitat and Plant Assessment Report, February 2019
Aquatic Wildlife Resources Study, February 2019
Fisheries Migration Study (Critical Riffle Analysis), February 2019
Cumulative Analysis of Pajaro River Lagoon (applies to all projects combined), February 2019
Water Quality Study (Pinto Lake interactions), February 2019

4.6 Water Rights

The Agency anticipates preparing a water rights application beginning in February 2018 and filing the application with the State Water Resources Control Board in March 2018. Preparation of the application will require the following information:

- General project description.
- Point or points of diversion.
- Locations of pumps and wells.
- Place of use.
- Purpose of use.
- Maximum instantaneous direct diversion rate (cfs).
- Maximum annual diversion (afy).
- Season of diversion.
- Topographic map of facilities.
- Plan for acquiring necessary property rights.

This information will be included in an updated engineering project description, with the exception of the plan for acquiring the property rights, which will be developed and implemented as described in Section 4.3. It is recommended that Agency staff meet with State Water Resources Control Board staff and resource agencies staffs before completing the water rights application, to give them opportunities to provide input on the draft application.

It is expected that, following receipt of the water rights application, the State Water Resources Control Board will issue a public notice regarding the application in July 2018. After the deadline for filing protests has passed, the Agency will be meeting with the protestants to discuss potential resolutions of their protests. However, some protests may not be resolved until after the Agency completes its CEQA document, and a State Water Resources Control Board hearing may be necessary if some protests cannot be resolved.

4.7 Funding

Given the approximate \$1.8 million fee estimate for planning, design, and environmental permitting and documentation for the Watsonville Slough Diversion with Recharge Basins, the Agency will likely seek SRF planning funds for the pre-construction work as described in the College Lake Diversion with Inland Pipeline to CDS funding section. If the Agency chooses to pursue an SRF Planning loan, the application should be submitted as soon as possible to include the reimbursement of the costs currently being incurred on the project. If acceptable to SWRCB, the Agency should consider one planning application including all of the BMP projects to reduce application costs and streamline the review and approval process.

Consistent with the College Lake Diversion with Inland Pipeline to CDS funding strategy, working with the SWRCB throughout the planning, design and environmental documentation process could position the Agency for a streamlined application and approval of an SRF Construction loan. The Watsonville Slough Diversion with Recharge Basins, with an estimated construction cost in 2016 dollars of \$16.6 million dollars financed over a term of 20 years at the current SRF rate provides an estimated \$4 million cost savings over traditional financing. If the Agency secured an SRF construction loan, the repayment of the planning funds could be incorporated into the new construction loan repayment schedule. Additionally, the Agency will consider completing the Watsonville Slough Diversion with Recharge Basins environmental documentation in compliance with the SRF Federal cross-cutting measures to position for SRF construction funding without requiring significant additional environmental analysis.

There may be additional funding opportunities during the project development phase including Proposition 1 funding from SWRCB and DWR, WaterSMART funding from USBR, and other State and Federal programs. These opportunities will continue to be monitored and considered for Watsonville Slough Diversion with Recharge Basins funding.

4.8 Estimated Costs for Activities through June 2019

Table 4 summarizes budgetary costs for the project activities through June 2019.

5.0 MURPHY CROSSING DIVERSION WITH RECHARGE BASINS

Implementation activities for Murphy Crossing Diversion with Recharge Basins are expected to commence in 2019. An updated implementation plan through 2024 is shown in Figure 7.

6.0 SUMMARY OF PROJECT COSTS

Project costs through June 2019 and total estimated projects costs for each project are summarized in Table 5.

Table 5 Summary of Project Costs BMP Implementation Strategy Pajaro Valley Water Management Agency		
Project	Estimated Project Costs Through June 2019⁽¹⁾	Total Estimated Project Costs⁽¹⁾
College Lake Diversion With Inland Pipeline to CDS	\$2,800,000	\$35,600,000
Harkins Slough Recharge Facilities Upgrades	\$1,450,000	\$6,600,000
Watsonville Slough Diversion with Recharge Basins	\$1,800,000	\$16,600,000
Murphy Crossing Diversion with Recharge Basins	\$0	\$9,800,000
Total	\$6,050,000	\$68,700,000

Notes:
 (1) All costs are given in 2016 dollars. Inflation, which will occur between 2016 and project implementation, will increase these costs.

Figure 7 Murphy Crossing Diversion with Recharge Basins - Implementation Plan Through 2024

Task	Calendar Year								
	2017	2018	2019	2020	2021	2022	2023	2024	
Funding Grants									
Seek Funding Opportunities				█					
SRF Funding Application (after 2024)									
Negotiate SRF Financial Agreement (after 2024)									
Planning and Design									
Confirm Diversion Point and Pump Station Location			█						
Confirm Recharge Basin Locations			█						
Confirm Pipeline Routing			█						
Update Project Description			█						
Recharge Basin Hydrogeologic Study				█					
Perform Preliminary Design				█					
Design Modifications/Additional Design Needed for EIR					█				
Perform Final Design (after 2024)									
Public and Stakeholder Outreach									
Property Rights									
Right of Access to Point of Diversion			█						
Discussions And Negotiations to Obtain Property Rights for Recharge Basins				█					
Discussions And Negotiations to Obtain Property Rights at Diversion Point				█					
Discussions And Negotiations to Obtain Easements for Pipelines				█					
Secure Property Rights					█				
Environmental Review & Studies									
Update Project Description				█					
Notice of Preparation/Scoping Meeting				█					
Prepare Draft EIR				█					
Public Review/Comment Period					█				
Response to Comments/Final EIR					█				
Permitting									
Meet with Resource Agencies to Discuss Proposed Project				█					
Perform Additional Studies				█					
Submit Permit Applications					█				
Final Regulatory Permit Process						█	█	█	
Water Rights									
Prepare and File Water Rights Application				█					
SWRCB Issues Public Notice				█					
Protest Resolution Discussions and Negotiations					█	█	█	█	
SWRCB Hearing							█	█	
Water Right Permit Issued (after 2024)									
Construction (after 2024)									

**APPENDIX A - DRAFT APPLICABLE OR POTENTIALLY
APPLICABLE PERMITS AND APPROVALS**

Appendix A
DRAFT Applicable or Potentially Applicable Permits and Approvals

Action Requiring Permit or Consultation	Agency or Organization	Permit or Approval	Harkins Slough Recharge Facilities Upgrades	Watsonville Slough w/ Recharge Basins	College Lake Diversion with Inland Pipeline to CDS	Murphy Crossing Diversion with Recharge Basins
Federal						
Impacts to wetlands/waters of the United States.	U.S. Army Corps of Engineers	Clean Water Act Section 404 Permit (33 USC 1341)	X	X	X	X
Impacts to biological resources and federal nexus	U.S. Fish and Wildlife Service	Fish and Wildlife Coordination Act compliance (16 USC 661-667e; the Act of March 10, 1934; ch 55; 48 stat. 401)	X	X	X	X
Construction in wetland and upland areas where federally listed species may be present.	U.S. Fish and Wildlife Service; National Marine Fisheries Service	Consultation and Coordination under Endangered Species Act (ESA, Section 7 consultation)	X	X	X	X
State						
Development of new surface water diversions	State Water Resources Control Board (SWRCB): Division of Water Rights	Water Rights Permits		X	X	X
Alteration of streambeds during construction;	Department of Fish and Wildlife	Streambed Alteration Agreement (Fish & Game Code Section 1602)	X	X	X	X
If state-listed species are present, or may be present, & project may adversely affect such species.	Department of Fish and Wildlife	Incidental Take Permit (CESA Section 2081)	X	X	X	X
Projects within Coastal Zone	Coastal Commission	Coastal Development Permits (PRC Section 30000 et seq.)	X	X	X	
Potential for surface water quality impairment from pollutant discharge	Regional Water Quality Control Board (RWQCB)	401 Certification and National Pollutant Discharge Elimination System for Construction (WQO 99-08-DWQ)	X	X	X	X
Construction in or near cultural resources	State Historic Preservation Officer	Section 106 of the National Historic Preservation Act (16 USC 470)	X	X	X	X
Review & concurrence for recycled water storage/distribution	SWRCB – Division of Drinking Water / RWQCB	Compliance with Title 22 Division 4, Chapter 3 of California Code of Regulations	X	X	X	
Construction under State Highways	Department of Transportation (Caltrans)	Encroachment Permits (Streets and Highways Code Section 660)			X	X
Local						
Cross railroad tracks, parallel tracks; enter the railroad right-of-way.	Santa Cruz County Regional Transportation Commission	Easement; Right of Entry			X	X
Construction and excavation activities in Santa Cruz County	Santa Cruz County Planning Dept	Grading Permits; Riparian Exceptions; Coastal Development Permits	X	X	X	X
Private Industry						
Construction within PG&E right of way for overhead/buried utilities	PG&E	Encroachment Permit	X	X	X	X
Construction near or within buried cable/ telecommunication lines	Telecommunication and cable providers	Request review of plans and notification prior to construction.	X	X	X	X
Activities and facilities on land owned by others	Private or public landowners	Easements, right of away, land acquisition	X	X	X	X

September 2016
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