

MITIGATION MONITORING AND REPORTING PROGRAM - PAJARO VALLEY WATER MANAGEMENT DISTRICT

BASIN MANAGEMENT PLAN UPDATE FINAL EIR, FEBRUARY 2014

INTRODUCTION

The California Environmental Quality Act (CEQA) requires a public agency to adopt a reporting or monitoring program when approving a project or changes to a project, in order to mitigate or avoid significant effects on the environment (Public Resources Code section 21081.6). The program is based on the findings and the required mitigation measures presented in an Environmental Impact Report (EIR) that has been prepared for the project and certified by the lead agency. The reporting or monitoring program must be designed to ensure compliance during project implementation.

Pursuant to the State CEQA Guidelines, a Mitigation Monitoring and Reporting Program (MMRP) must cover the following:

- The MMRP must identify the entity that is responsible for each monitoring and reporting task, be it Pajaro Valley Water Management Agency (as lead agency), other agency (responsible or trustee agency), or a private entity such as another agency or private project sponsor.
- The MMRP must be based on the project description and the required mitigation measures presented in the environmental document prepared for the project and certified by the lead agency.
- The MMRP must be approved by the lead agency at the same time of project action or approvals. MMRP's are typically designed in chart and checklist format for ease of monitoring and reporting.

PURPOSE AND USE OF THE MONITORING AND REPORTING PROGRAM

This Environmental Mitigation Monitoring and Reporting Program (MMRP) has been prepared pursuant to State CEQA Guidelines to provide a framework for the monitoring of mitigation measures required for the Pajaro Valley Water Management Agency Basin Management Plan (BMP) Update. The purpose of the monitoring and reporting program is to provide Pajaro Valley Water Management Agency with a simple guideline of procedures to ensure that the mitigation measures required under the Final EIR are implemented properly.

A monitoring and reporting chart has been created to ensure that each mitigation measure is implemented. This chart provides the following information and direction:

- **Mitigation Measures** – the first column lists the required mitigation measures by number identified in the Final EIR.
- **BMP Project Referenced** – the second column lists the projects applicable to the mitigation measure to be implemented.
- **Timing of Implementation** – the third column lists the timing as to when the mitigation measure is to be implemented.
- **Implementation Responsibility** – the fourth column identifies the agency or entity responsible for implementing the mitigation measure
- **Verified for Compliance** – the final column provides a verification tool to ensure that the monitoring and reporting actions are followed.

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Section 21081.6 of the Public Resources Code requires all state and local agencies to establish monitoring or reporting programs whenever approval of a project relies upon an environmental impact report (EIR). The purpose of the monitoring or reporting program is to ensure implementation of the measures being imposed to mitigate or avoid the significant adverse environmental impacts identified in the EIR. The following provides guidance on the reporting and MMRP format:

Mitigation Measures, below, presents the mitigation measures from the Final EIR for the BMP Update. The BMP Update EIR mitigation measures are often specific to the BMP Project (individualized). Therefore, the BMP Project Referenced (second column, below) identifies which projects are applicable to the mitigation measure identified. The Timing of Implementation identifies whether the mitigation is to be completed at various timeframes, such as for future BMP project design or CEQA review, prior to and during construction or at post-construction. The Implementation Responsibility is predominantly proposed as either the Lead Agency which is likely PVWMA; however, at the program-level neither the project nor the lead agency is fully defined for each project. The columns, Verified for Compliance and “X”, provide a verification tool to ensure that the monitoring and reporting actions are followed. Verification would require appropriate documentation or survey/mapping to verify the action is complete prior to the responsible agency or entity showing the mitigation as completed.

Mitigation Measures	BMP Project Referenced	Timing of Implementation			Implementation Responsibility	Verified for Compliance By:	X <input type="checkbox"/>
		Project Level Design and CEQA Review	Prior to ground clearing, subsurface earthwork and ongoing during construction	Post Construction			
AE-1a: PVWMA shall use design elements to enhance visual integration of the proposed above-ground facilities with their surroundings. Proposed structures shall be painted low-glare earth-tone colors that blend with the surrounding terrain, unless colors otherwise specified by regulatory agencies, such as purple facilities for recycled water systems.	A,D,E	X			Lead Agency	PVWMA	<input type="checkbox"/>

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AE-1b: PVWMA shall use design elements and landscaping to enhance visual integration of the College Lake pumping and filtration facilities with their surroundings. Proposed facilities shall be painted low-glare earth-tone colors that blend closely with the surrounding terrain. Vegetation shall be planted at proposed facilities to provide screening from views of the facilities from Highway 152.	D	X			Lead Agency	PVWMA	<input type="checkbox"/>
AE-1c: PVWMA shall shield the weir with vegetation to minimize textural contrasts with the surrounding vegetation using grasses, shrubs and trees typical of the immediately surrounding area.	D	X			Lead Agency	PVWMA	<input type="checkbox"/>
AQ-1: The construction contractor shall implement a dust program that includes the following elements: <ul style="list-style-type: none"> • Water all active construction sites at least twice daily • Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard • Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites • Sweep daily (with water sweepers) all paved access roads, paved parking areas and paved 	A, B, C, D, E		X		Contractor	PVWMA	<input type="checkbox"/>

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<p>staging areas at construction sites</p> <ul style="list-style-type: none"> • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. • Hydroseed or apply (non-toxic) soil binders to inactive construction areas. However, do not apply these measures in operating agricultural fields under cultivation unless requested by the grower • Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.). • Limit traffic on unpaved roads to 15 mph • Install sandbags or other erosion control measures to prevent silt runoff to public roadways • Replant vegetation in disturbed areas as quickly as possible <p>The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints. The name and telephone number of such persons shall be provided to the APCD Compliance Division prior to the start of any grading, earthwork or demolition.</p>							
<p>BIO-1a: Wetlands and riparian habitat will be avoided by project construction activities. All facilities and construction activities will be maintained outside the jurisdictional area defined by riparian or emergent</p>	B, C, D, E	X	X	X	Lead Agency	PVWMA	<input type="checkbox"/>

Mitigation Measures	BMP Project Referenced	Timing of Implementation			Implementation Responsibility	Verified for Compliance By:	X
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wetland vegetation and applicable setbacks and buffers where feasible. Within the Coastal Zone, project improvements will be located 100 feet from coastal review wetlands. Within the City of Watsonville, development will be located 100 feet from riparian areas. Within the unincorporated areas of the County, yet outside the Coastal Zone, a setback of 30 feet and 50 feet will be established adjacent to intermittent and perennial streams, respectively. If complete avoidance of wetlands and riparian areas is infeasible and/or development occurs within a regulated buffer/setback area, impacts would be minimized through implementation of Mitigation Measures BIO-1b, BIO-1c BIO-1d, and BIO-1e.							
<p>BIO-1b: Standard measures to maintain water quality and to control erosion and sedimentation will be implemented. These measures include:</p> <ul style="list-style-type: none"> • Restrict trenching across all waterways to low-flow periods. • Exclude water from around the section of trench that is within the actively flowing channels. This will further reduce the potential for sediment or other pollutants to enter the waterways and impact downstream resources. The diversion will consist of water pillows, rock, sandbags, or other structural methods deemed most effective by the project 	B, C, D, E		X	X	Contractor	PVWMA	<input type="checkbox"/>

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<p>engineer.</p> <ul style="list-style-type: none"> Place sediment curtains downstream of the construction zone to prevent sediment disturbed during trenching activities from being transported and deposited outside of the construction zone. Locate spoil sites so they do not drain directly into the waterways. If a spoil site drains into a channel, catch basins will be constructed to intercept sediment before it reaches the channels. Spoil sites will be graded to reduce the potential for erosion. Prepare and implement a spill prevention plan for potentially hazardous materials. The plan will include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting of any spills. If necessary, containment berms will be constructed to prevent spilled materials from reaching the creek channels. Store equipment and materials away from the waterways, outside existing levees or at least 50 feet from waterways, but within the pipeline right-of-way. No equipment or materials will be deposited within 100 feet of wetlands. Provide proper and timely maintenance for vehicles and equipment used during construction to reduce the potential for mechanical breakdowns leading to a spill of materials into or around the 							

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<p>creeks. Maintenance and fueling will be conducted in an area that meets the criteria set forth in the spill prevention plan (i.e., away from the creeks).</p> <ul style="list-style-type: none"> • Prior to construction, install temporary construction fencing at the perimeter of the construction zone to prevent inadvertent equipment access or construction staging within adjacent riparian forest and/or coastal marsh habitats. This fencing will be signed in the field as “SENSITIVE HABITAT AREA — NO CONSTRUCTION ACCESS”. Monitor construction activities to verify compliance with the perimeter fencing and limits of construction access and staging and implement remedial action if non-compliance is noted. • Restrict limbing of riparian forest trees; if trees are limbed for construction access, document the impact and provide compensation as per Mitigation Measure BIO-1c. 							
<p>BIO-1c: Where impacts to mixed riparian or willow riparian forest occurs, revegetation measures will be developed as part of a revegetation plan approved by CDFW, RWQCB, and if applicable, USACE and/or California Coastal Commission, pursuant to regulatory agency permitting. The revegetation plan will include specific plans for the revegetation of impacted riparian</p>	B, C, D, E	X	X	X	Lead Agency	PVWMA	<input type="checkbox"/>

Mitigation Measures	BMP Project Referenced	Timing of Implementation			Implementation Responsibility	Verified for Compliance By:	X
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<p>forest, and for restoration of nearby creek riparian habitat, as appropriate. Upon approval by Santa Cruz County and other applicable agencies, the PVWMA may choose to coordinate with the Natural Resources Conservation Service (NRCS) and the Santa Cruz County Resource Conservation District (RCD) to develop and implement the required riparian revegetation, including providing funds to the RCD for their implementation of the revegetation. Revegetation measures will include the use of locally obtained plant materials, detailed descriptions of installation methods, after-installation care, weed control measures, success criteria, and corrective measures if the success criteria are not met. Revegetation will include a 3:1 replacement ratio the acreage of riparian habitat lost and for all trees lost as result of the project to account for the reduced habitat values of smaller trees compared with mature vegetation. Success criteria for replanting will be less than 20 percent mortality of individual species yearly for 5 years. Replanting will be conducted each year that plantings exceed 20% mortality, such that 80% plant survival is maintained each year of the 5-year monitoring period. Cover provided by invasive, non-native plant species shall not exceed 5% during each year of the 5-year monitoring period.</p>							

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BIO-1d: Where impacts to coastal freshwater marsh occurs, revegetation measures will be developed as part of a revegetation plan approved by CDFW, RWQCB, USACE, and/or California Coastal Commission, pursuant to regulatory agency permitting. Upon approval by Santa Cruz County and other applicable agencies, the PVWMA may choose to coordinate with the Natural Resources Conservation Service (NRCS) and the Santa Cruz County Resource Conservation District (RCD) to develop and implement the required wetland revegetation, including providing funds to the RCD for their implementation of the revegetation. The revegetation plan will include specific plans for the revegetation of impacted coastal marsh, and for restoration of nearby wetland habitat, as appropriate. Revegetation measures will include the use of locally obtained plant materials, detailed descriptions of installation methods, after-installation care, weed control measures, success criteria, and corrective measures if the success criteria are not met. Revegetation will include a 3:1 replacement ratio (or an equivalent habitat replacement strategy as agreed upon by PVWMA and regulatory agencies) for impacted wetlands. If natural recovery is a viable strategy, then a wetland plant cover exceeding 50% should be attained after two growing seasons. Mitigation may occur via restoration, creation, or	B, C, D, E	X	X	X	Lead Agency	PVWMA	<input type="checkbox"/>

Mitigation Measures	BMP Project Referenced	Timing of Implementation			Implementation Responsibility	Verified for Compliance By:	X
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preservation of wetlands. Mitigation will occur at a site acceptable to permitting agencies and pursuant to Project permit requirements. If the compensatory mitigation includes restoration, enhancement, or creation of wetlands, a qualified biologist will monitor the designated wetland mitigation area for a minimum of five years to ascertain if the wetland mitigation is successful. Annual reports will be submitted to permitting agencies by December 31 of each monitoring year, describing the results of the monitoring and any remedial actions needed to achieve a minimum 3:1 habitat replacement ratio or equivalent for permanent impacts to wetlands and other waters.							
BIO-1e: Where construction and/or facilities are placed within a riparian or wetland development setback area, indirect impacts to adjacent riparian and wetland vegetation will be minimized. Where feasible, buffer plantings of native trees and shrubs will be installed between the facility and the adjacent wetland or riparian resource to provide a vegetated buffer. A buffer planting plan will be prepared as part of a revegetation plan approved by CDFW, RWQCB, USACE, and/or California Coastal Commission, pursuant to regulatory agency permitting. The buffer planting plan will include specific revegetation measures, including the use of locally obtained plant	B, C, D, E	X	X		Lead Agency	PVWMA	<input type="checkbox"/>

Mitigation Measures	BMP Project Referenced	Timing of Implementation			Implementation Responsibility	Verified for Compliance By:	X
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materials, detailed descriptions of installation methods, after-installation care, weed control measures, success criteria, and corrective measures if the success criteria are not met.							
BIO-2a: During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.	B, C, D, E		X	X	Contractor	PVWMA	<input type="checkbox"/>
BIO-2b: All refueling, maintenance, and staging of equipment and vehicles will occur at least 65 feet from any riparian habitat or water body. The Agency will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the Agency will ensure that the contractor has prepared a plan to allow a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.	B, C, D, E		X	X	Lead Agency	PVWMA	<input type="checkbox"/>
BIO-2c: The spread or introduction of invasive exotic plant species will be avoided to the extent practicable. When practicable, invasive exotic plants in the project areas will be removed.	B, C, D, E		X	X	Contractor	PVWMA	<input type="checkbox"/>

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BIO-2d: Prior to any on-site work in areas where special-status species may occur, a qualified biologist will conduct a tailgate training session in which all construction personnel will receive training regarding measures (below) that are to be implemented to avoid environmental impacts. This training will include a presentation of the potential for sensitive species to occur at the site and measures to protect habitat including aquatic habitat and avoid impacts to the species. All personnel working on the site will receive this training, and will sign a sign-in sheet showing they received the training.	B, C, D, E		X	X	Lead Agency & Qualified Biologist	PVWMA	<input type="checkbox"/>
BIO-2e: Prior to the commencement of work, the limits of the work area (including haul routes, access ramps, storage areas and material stockpiles) will be clearly marked with orange construction fencing to prevent workers from impacting habitat outside the work area. No work will occur outside the designated marked work areas.	B, C, D, E		X		Contractor	PVWMA	<input type="checkbox"/>
BIO-2f: Each morning before work begins on any components in or within 100 feet of a suitable habitat area (defined as: riparian habitat, USACE jurisdictional wetlands or "other waters" of the U.S., or sensitive habitats identified in subsequent USFWS Biological Opinions and CDFW 1600 Lake and Streambed	B, C, D, E		X		Lead Agency & Qualified Biologist	PVWMA	<input type="checkbox"/>

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Alteration Agreements), a qualified monitor will survey the work site and habitat immediately surrounding the active work site for conditions that could impact special-status species, and will remain on-site whenever work is occurring that may adversely impact special-status species and their habitats. No work will be allowed to begin each morning until the monitor has inspected the work site.							
BIO-2g: A USFWS-approved biologist or biological monitor will permanently remove from within the project area(s), any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes to the extent practicable.	B, C, D, E		X		Lead Agency & Qualified Biologist	PVWMA	<input type="checkbox"/>
BIO-2h: Upon locating individuals of special-status species that are dead or injured as a direct result of activities conducted by PVWMA, initial notification will be made to the USFWS's Division of Law Enforcement at (916) 978-4861 (Sacramento) within three working days of its finding. The USFWS Field Office within whose area of responsibility the specimen is recovered will also be notified. Written notification will be made within five calendar days and include the date, time, and location of the carcass, a photograph, cause of death, if known, and any other pertinent information.	B, C, D, E		X		Lead Agency & Qualified Biologist	PVWMA	<input type="checkbox"/>

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<p>BIO-2i: Nesting Bird Surveys. Prior to any project construction activities, the project proponent will take the following steps to avoid direct losses of nests, eggs, and nestlings and indirect impacts to avian breeding success:</p> <ul style="list-style-type: none"> • If construction activities occur only during the non-breeding season, between August 31 and February 1, no surveys will be required. • During the breeding bird season (February 1 through August 31), a qualified biologist will survey construction areas in the vicinity of the project site for nesting raptors and passerine birds not more than 14 days prior to any ground-disturbing activity or vegetation removal. Surveys will include all potential habitats within 500 feet (for raptors) of activities and all on-site vegetation including bare ground within 250 feet of activities (for all other species). If results are positive for nesting birds, avoidance procedures will be adopted, if necessary, on a case-by-case basis. These may include implementation of buffer areas (minimum 50-foot buffer for passerines and 250-foot minimum buffer for raptors) or seasonal avoidance. 	B, C, D, E	X	X		Lead Agency & Qualified Biologist	PVWMA	<input type="checkbox"/>
<p>BIO-2i.1: Develop Adaptive Management Plan for College Lake Waterfowl Management and Multi-species Mitigation. To mitigate impacts to existing</p>	D	X	X	X	Lead Agency	PVWMA	<input type="checkbox"/>

Mitigation Measures	BMP Project Referenced	Timing of Implementation			Implementation Responsibility	Verified for Compliance By:	X
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<p>waterfowl or waterfowl habitat at College Lake, an Adaptive Management Plan for waterfowl management and multi-species mitigation will be developed with the consultation of the state and federal resource agencies and College Lake stakeholders. The Adaptive Management Plan for waterfowl management and multi-species mitigation at College Lake will develop multi-year baseline waterfowl population and habitat use data for future project design, environmental permitting and CEQA impact analysis of project-level alternatives. To the extent practical, it will integrate the results of ongoing College Lake hydrology and hydraulic analyses, as well as future consultations with state and federal agencies on fish flows and fish bypass criteria.</p> <p>The Management Plan will be specific to the level of impact and mitigations under site-specific and project implementation conditions. However, the following standards will apply as defined during project-level design, regulatory review and CEQA analysis: The Management Plan should include terms and conditions from applicable permits and agreements as appropriate and define provisions for monitoring assignments, scheduling, and responsibility. The Management Plan should also include habitat replacement and revegetation, protection during ground-disturbing</p>							

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activities, performance standards, maintenance criteria, and monitoring requirements for temporary and permanent impacts consistent with mitigation in this EIR and regulatory requirements during project-specific review. The Management Plan will be in conformance with the biology mitigation measures from this EIR, and will also include terms and conditions consistent regulatory requirements as applicable from the USFWS, USACE, SWRCB, and CDFW permits during project design and permitting as applicable. The Management Plan will be prepared for project level project implementation as determined needed through future CEQA review and consultation with agencies as required under CESA and ESA.							
BIO-2j (CRT): The following measures for avoidance and minimization of adverse impacts to California Red-Legged Frog (<i>Rana draytonii</i>) (CRF) during construction of the BMP Update components are those typically employed for construction activities that may result in short-term impacts to individuals and their habitat. The focus of these measures is on scheduling activities at certain times of year, keeping the disturbance footprint to a minimum, and monitoring. Consultation with the USFWS will be conducted and a Biological Opinion developed for each BMP Update component that requires a USACE Section 404	B, C, D, E	X	X		Lead Agency & Qualified Biologist	PVWMA	<input type="checkbox"/>

Mitigation Measures	BMP Project Referenced	Timing of Implementation			Implementation Responsibility	Verified for Compliance By:	X
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<p>Wetland Permit. Ongoing and future CRF studies in the project area may result in site-specific conditions that would be integrated into the future project-level BMP Update component designs, permitting and operations.</p> <p>CRF-1. The Agency will annually submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities will begin until the Agency receives approval from the Service that the biologist(s) is qualified to conduct the work.</p> <p>CRF-2. A USFWS-approved biologist will survey the work site 48 hours prior to the onset of activities. If CRF, tadpoles, or eggs are found, the approved biologist will determine the closest appropriate relocation site. The approved biologist will be allowed sufficient time to move them from the work site before work activities begin. Only USFWS-approved biologists will participate in activities associated with the capture, handling, and moving of CRF.</p> <p>CRF-3. Before any activities begin on a project, a USFWS-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the CRF and its habitat, the importance of the CRF and its habitat, general measures that are being implemented to</p>							

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<p>conserve the CRF as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.</p> <p>CRF-4. A USFWS-approved biologist will be present at the work site until such time as all removal of CRF, instruction of workers, and disturbance of habitat have been completed. After this time, the biologist will designate a person to monitor on-site compliance with all minimization measures and any future staff training. The USFWS-approved biologist will ensure that this individual receives training outlined in measure WPT-2 and in the identification of CRF. The monitor and the USFWS-approved biologist will have the authority to stop work if CRF are in harm's way.</p> <p>CRF-5. The number of access routes, number and size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries will be clearly demarcated, and these areas will be outside of riparian and wetland areas to the extent practicable.</p> <p>CRF-6. Work activities will be completed between April 1 and November 1 to the extent practicable. Should the Agency demonstrate a need to conduct activities outside this period, the Agency may conduct</p>							

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<p>such activities after obtaining the Service's approval.</p> <p>CRF-7. If a work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than five millimeters (mm) to prevent CRF from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.</p> <p>CRF-8. The Declining Amphibian Populations Task Force's Fieldwork Code of Practice will be followed to minimize the possible spread of chytrid fungus or other amphibian pathogens and parasites.</p> <p>CRF-9: Implement Mitigation Measure 3.10-1 through 3.10-4 in Section 3.10, Hydrology and Water Quality: Surface Water Systems.</p>							
<p>BIO-2k (WPT): The following measures for avoidance and minimization of adverse impacts to western pond turtle (<i>Actinemys marmorata</i>) (WPT) during construction of the BMP Update project elements are those typically employed for construction activities that may result in short-term impacts to individuals and their habitat. The focus of these</p>	B, C, D, E	X	X	X	Lead Agency & Qualified Biologist	PVWMA	<input type="checkbox"/>

Mitigation Measures	BMP Project Referenced	Timing of Implementation			Implementation Responsibility	Verified for Compliance By:	X
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<p>measures is on keeping the disturbance footprint to a minimum and aggressive monitoring of WPTs before vegetation removal and during the construction and revegetation phase.</p> <p>WPT-1. The Agency will annually submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities will begin until proponents have received approval from CDFW that the biologist(s) is qualified to conduct the work.</p> <p>WPT-2. A CDFW-approved biologist will survey the work site 48 hours prior to the onset of activities. If WPT adults, juveniles or eggs are found, the approved biologist will determine the closest appropriate relocation site. The approved biologist will be allowed sufficient time to move them from the work site before work activities begin. Only CDFW-approved biologists will participate in activities associated with the capture, handling, and moving of WPT.</p> <p>WPT-3. Before any activities begin on a project, a CDFW-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the WPT and its habitat, the importance of the WPT and its habitat, general measures that are being implemented to conserve the WPT as they relate to the project, and the</p>							

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<p>boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.</p> <p>WPT-4. A CDFW-approved biologist will be present at the work site until such time as all removal of WPT, instruction of workers, and disturbance of habitat have been completed.</p> <p>WPT-5. The number of access routes, number and size of staging areas, and the total area of the activity will be limited to the project plans. Routes and boundaries will be clearly demarcated. Where impacts occur in these staging areas and access routes, restoration will occur as identified in the general BMP Update components above.</p>							
<p>BIO-21 (FISH): The following measures are required to reduce impacts to special status fisheries, including steelhead and resident rainbow trout, to a less-than-significant level:</p> <p>FISH-1. A NOAA Fisheries-approved, qualified fisheries biologist would be onsite to provide preconstruction training on steelhead life-history to construction crews and to provide daily monitoring during construction activities.</p> <p>FISH-2. If the preliminary construction concept</p>	D, E	X	X	X	Lead Agency & Qualified Biologist	PVWMA	<input type="checkbox"/>

Mitigation Measures	BMP Project Referenced	Timing of Implementation			Implementation Responsibility	Verified for Compliance By:	X
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<p>proposes the use of temporary coffer dams for isolating the work areas at the upstream and downstream extent of the project, installation and removal of the temporary coffer dams would be monitored by the qualified fisheries biologist.</p> <p>FISH-3. Following initial construction of the coffer dam bypass system, isolated standing water would be pumped from the work area to adjacent vegetated terraces, settling tanks or back into the river, if turbidity is not elevated more than 10% of background turbidity levels.</p> <p>FISH-4. If a work site is to be temporarily de-watered by pumping, intakes will be completely screened with wire mesh not larger than 0.2 inch to prevent steelhead or other native fish from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.</p> <p>FISH-5. The installation and removal of the coffer dam structures would be controlled to minimize turbidity in the water.</p> <p>FISH-6. The use of best management practices would be implemented to reduce the probability of sediment</p>							

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and/or contaminated material from entering the creek.							
BIO-2m: No water shall be diverted from College Lake from the time the lake begins filling in late fall/early winter through the end of the smolt outmigration period (approximately May 31 or June 15) unless sufficient bypass flows are provided at the dam for unimpeded adult upstream migration through March 31, and sufficient bypass flows are provided at the dam for unimpeded smolt outmigration through May 31. The precise bypass flow levels required to achieve unimpeded migrations are not known at this time. After May 31 or June 15, the entire storage of College Lake could potentially be diverted. College Lake would likely be too warm to allow summer rearing by steelhead, especially in the presence of warm water predatory fishes.	D	X	X	X	Lead Agency	PVWMA	<input type="checkbox"/>
BIO-2n: Protection of Steelhead Migratory Habitat - Impacts to steelhead migration passage shall be minimized by carrying out construction in College Lake/Cassery Creek/Salsipuedes Creek after June 1 and prior to November 1, during which time adults and smolts do not migrate through the area.	D	X	X	X	Contractor	PVWMA	<input type="checkbox"/>
BIO-2o: <i>Protection</i> of Steelhead Migratory Habitat - The proposed College Lake with Inland Pipeline to Coastal Distribution System component shall be	D	X	X	X	Lead Agency & Qualified Biologist	PVWMA	<input type="checkbox"/>

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operated such that it complies with all minimum required bypass flow requirements during the steelhead migration period, including those developed through a new bypass flow study to be conducted by a qualified fisheries biologist in consultation with the relevant regulatory agencies.							
BIO-2p: The PVWMA shall install and operate surface-water streamflow gaging stations on Casserly Creek upstream and on Salsipuedes Creek downstream of the proposed College Lake diversion structure to monitor available diversion inflows and to provide and document future Biological Opinion-required fish bypass flows.	D	X	X	X	Lead Agency	PVWMA	<input type="checkbox"/>
BIO-2q: Protection of Steelhead Migratory Habitat - Impacts to steelhead migration passage shall be minimized by carrying out construction in the Pajaro River after June 1 and prior to November 1, during which time adults and smolts do not migrate through the area.	E	X	X	X	Contractor	PVWMA	<input type="checkbox"/>
BIO-2r: Protection of Steelhead Migratory Habitat - The proposed Murphy Crossing with Recharge Basins component shall be operated such that it complies with all minimum required bypass flow requirements during the steelhead migration period.	E	X	X	X	Lead Agency	PVWMA	<input type="checkbox"/>

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BIO-2s: The PVWMA shall install and operate surface-water streamflow gaging stations on the Pajaro River both upstream and downstream of the proposed Murphy Crossing infiltration gallery to monitor available diversion inflows and to provide and document future Biological Opinion-required fish bypass flows.	E	X	X	X	Lead Agency	PVWMA	<input type="checkbox"/>
BIO-3a: Occurrences of special status plant species shall be avoided by project construction activities to the extent feasible. All facilities and construction activities will be maintained outside habitats supporting special status plant species where feasible. Prior to construction, a qualified biologist will conduct a survey of the project area to ascertain the presence or absence of special status plant species. If no species are encountered, no mitigation is required. If a special status species is found within a BMP Update component project area, a setback of 50 feet will be established between the occurrence and the BMP Update construction activities. Prior to construction, PVWMA will install temporary construction fencing at the 50-foot setback line to prevent inadvertent equipment access or construction staging within the special status plant habitat. This fencing will be signed in the field as “SENSITIVE HABITAT AREA — NO CONSTRUCTION	A, B, C, D, E	X	X	X	Lead Agency & Qualified Biologist	PVWMA	<input type="checkbox"/>

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ACCESS". A qualified biologist will inspect the temporary construction barrier fence and monitor the contractor's compliance with this avoidance measure. If complete avoidance of special status plant species is infeasible, impacts would be minimized through implementation of Mitigation Measure BIO-3b							
BIO-3b: Prior to clearing and grubbing in areas where impacts to special status plant species cannot be avoided, PVWMA will consult with applicable resource agencies (i.e., CDFW and/or USFWS) prior to implementing salvage and revegetation actions. A qualified biologist will collect any available above-ground seed pods/seed heads for their use in future revegetation efforts. During construction, the upper 6 inches of topsoil from areas supporting the plant species will be stripped from the construction area and stored for later use. The topsoil will be used in future revegetation efforts which may be on-site (if feasible) or at an off-site location approved by permitting agencies (i.e., USFWS, CDFW). At the designated revegetation area, all stockpiled topsoil will be placed on site and finish graded to blend with surrounding topography. Under direction of a qualified biologist, the areas will be revegetated with locally native herbaceous plant species compatible with natural regeneration of the special status plant species. The	A, B, C, D, E	X	X	X	Lead Agency & Qualified Biologist	PVWMA	<input type="checkbox"/>

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qualified biologist will hand broadcast any seeds collected from the special status plant species into the appropriate habitat areas. The revegetation will achieve a minimum of 2:1 plant replacement (i.e., re-establish two plants for every plant impacted). The qualified biologist will monitor the revegetation areas for two years after construction to ascertain if the special status plant species re-established within the revegetation area. Annual reports will be submitted to permitting agencies by December 31 of each monitoring year, describing the results of the revegetation measures, for a period of 5 years.							
CR-1a: Final pipeline and facility plans shall locate facilities and pipeline alignments away from identified and recorded archaeological sites in each component area based on a site reconnaissance and archaeological investigation conducted by a qualified archaeologist at the time site-specific construction plans are developed. The archaeologist shall identify the areal extent of potential recorded sites, assess potential significance to identified resources, recommend adjustment to siting of improvements, facilities and/or pipeline alignments, if necessary, and provide other recommendations to avoid impacts to identified significant resources. If a significant or potentially significant archaeological or historic resource is identified pursuant to the	B, C, D, E	X	X	X	Lead Agency & Qualified Archeologist	PVWMA	<input type="checkbox"/>

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definitions in the State CEQA Guidelines as identified above, the consulting archaeologist shall develop an appropriate mitigation plan for the cultural resource. Possible mitigation measures for important cultural resources may include monitoring by a qualified archaeologist during construction at identified sensitive sites, documentation and recordation of the resource, recovery and relocation, or stabilization of the resource.							
CR-1b: The cultural resource boundaries of potentially significant sites shall be marked as exclusion zones both on ground and on construction maps prior to the commencement of construction activities on component sites. Construction supervisory personnel shall be notified of the existence of cultural resources in each component area and will be required to keep personnel and equipment away from these cultural resources sites. During construction and operational phases, personnel and equipment will be restricted to each surveyed corridor for each component.	B, C, D, E	X	X	X	Lead Agency & Qualified Archaeologist	PVWMA	<input type="checkbox"/>
CR-1c: Should any as yet undiscovered cultural resources be uncovered at any component site, such as structural features, or unusual amounts of bone or shell, artifacts, human remains, or architectural remains be encountered during any development activities, work	B, C, D, E		X		Contractor	PVWMA	<input type="checkbox"/>

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will be suspended and PVWMA staff will be contacted. A qualified professional archaeologist shall be retained and will perform any necessary investigations to determine the significance of the find. PVWMA will then implement any mitigation deemed necessary for the recordation and/or protection of the cultural resources. In addition, pursuant to Sections 5097.97 and 5097.98 of the State Public Resources Code and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, all work must be halted and the County Coroner shall be immediately notified. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.							
ES-1: A study to identify utilities along proposed alignments will be conducted by PVWMA during pre-design states of projects. The following mitigation measures are required for segments identified in final design as having potential conflicts with significant utilities: <ul style="list-style-type: none"> a. Utility excavation and encroachment permits would be required from the appropriate agencies, including the Public Works Departments of Santa Cruz County, City of Watsonville, Caltrans, and Union Pacific 	B, C, D, E	X	X		Lead Agency & Contractor	PVWMA	

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<p>Railroad. These permits include measures to minimize utility disruption. PVWMA and its contractors shall comply with permit conditions. Permit requirements shall be included in construction contract specifications.</p> <p>b. Utility locations would be verified through field survey (potholing) and use of an underground locating service.</p> <p>c. A detailed engineering and construction plan shall be prepared as part of the design plans and specifications. This plan shall include procedures for the excavation, support, and fill of areas around utility cables and pipes. All affected utility services would be notified of PVWMA's construction plans and schedule. Arrangements would be made with these entities regarding protection, relocation, or temporary disconnection of services.</p> <p>d. In areas where the pipeline would parallel wastewater mains, engineering and construction plans shall include trench wall support measures to guard against trench wall failure, and possible resulting loss of structural support for the wastewater main.</p> <p>Residents and businesses in the project area shall be</p>							

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notified in writing by the contractor of planned utility service disruption two to four days in advance, in conformance with state and County standards.							
ES-2: PVWMA shall include in its construction specifications a requirement for the contractor to provide plans for recovering, reusing, and recycling construction, demolition, and excavation wastes and providing for composting of plant material, where feasible.	B, C, D, E	X	X		Lead Agency	PVWMA	<input type="checkbox"/>
GS-1: Future construction of proposed BMP Update facilities shall be designed in accordance with design recommendations of geotechnical reports and in compliance with applicable policies and appropriate engineering investigation practices necessary to reduce the potential detrimental effects of groundshaking and liquefaction. Construction shall be in accordance with applicable City and County ordinances and policies regarding mitigation of seismic and geologic hazards, and appropriate geotechnical studies shall be conducted.	B, C, D, E	X			Lead Agency & Qualified Engineer	PVWMA	<input type="checkbox"/>
GS-2: Construction of future BMP Update facilities shall include preparation and implementation of erosion control plans to minimize erosion and inadvertent transport of sediments into water bodies during installation of facilities. Measures shall include,	B, C, D, E	X			Lead Agency & Qualified Engineer	PVWMA	<input type="checkbox"/>

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but not be limited to: limiting the area of ground disturbance and vegetation removal at any one time during construction; conducting work prior to the rainy season if possible and protecting disturbed areas during the rainy season; installing bales or other appropriate barriers adjacent to water bodies to prevent transport of sediments into sloughs and water courses; immediately revegetating disturbed areas; and other Best Management Practices during construction to protect water quality. All grading and construction shall conform to requirements of the Santa Cruz County Grading Ordinance. To the extent possible, grading activities in non-cropped areas shall be limited to the period between April 15 and October 31.							
GS-3: All diversion and pipeline facilities shall be designed and engineered in accordance with recommendations of a geotechnical report and appropriate engineering designs to reduce the potential detrimental effects of expansive soils, corrosivity, and/or other identified soils constraints. A licensed geotechnical engineer shall prepare recommendations applicable to foundation design, earthwork, and site preparation prior to or during the project design phase. Recommendations will address mitigation of site-specific, adverse soil and bedrock conditions that could hinder development. Project engineers shall implement	B, C, D, E	X			Lead Agency & Qualified Geotechnical Engineer	PVWMA	<input type="checkbox"/>

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the recommendations. Geotechnical design and design criteria will comply with applicable codes and requirements of the California Building Code with California additions (CCR Title 24), applicable City and County construction and grading ordinances.							
HM-1: Prior to initiation of earthwork activities, PVWMA shall perform soil testing on agricultural sites proposed for development and analytically test for pesticide residuals and pesticide-related metals arsenic, lead, and mercury. If contamination is identified in the soil samples above applicable levels, PVWMA shall prepare a Site Management Plan (SMP) to establish protocols/guidelines for the contractor including: identification of appropriate health and safety measures while working in contaminated areas; soil reuse; handling, and disposal of any contaminated soils; and agency notification requirements. The SMP shall be subject to the review and approval of the appropriate regulatory agency.	B, C, D, E	X			Lead Agency and appropriate regulatory agency	PVWMA	<input type="checkbox"/>
HM-2: During the design phase of the proposed pipeline alignment from College Lake to Coastal Distribution System (CDS), PVWMA shall perform a Phase I Environmental Site Assessment for the alignment to determine the potential for encountering hazardous materials contamination in soils to be excavated and identify appropriate recommendations.	D	X	X		Lead Agency	PVWMA	<input type="checkbox"/>

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Appropriate health and safety measures shall be identified as needed for worker safety, soil handling, and disposal of contaminated soils.							
<p>HWQ-1: PVWMA shall require contractors to apply for all applicable NPDES permits, including dewatering permits, develop a SWPPP for construction of proposed facilities, and comply with conditions of the permit(s), as required by the CCRWQCB. The objectives of the SWPPP are to identify pollutant sources that may affect the quality of stormwater discharge and to implement BMPs to reduce pollutants in stormwater discharges. The SWPPP for this proposed action would include the implementation, at a minimum, of the following elements:</p> <ul style="list-style-type: none"> • Source identification • Preparation of a site map • Description of construction materials, practices, and equipment storage and maintenance • List of pollutants likely to contact stormwater • Estimate of the construction site area and percent impervious area • Erosion and sedimentation control practices, including soils stabilization, revegetation, and runoff control to limit increases in sediment in stormwater runoff, such as detention basins, 	A, B, C, D, E		X		Lead Agency & Contractor	PVWMA	<input type="checkbox"/>

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straw bales, silt fences, check dams, geofabrics, drainage swales, and sandbag dikes <ul style="list-style-type: none"> Proposed construction dewatering plans Provisions to eliminate or reduce discharge of materials to stormwater Description of waste management practices Maintenance and training practices 							
<p>HWQ-2: Rapid, imposed water-level fluctuations shall be avoided within the sloughs, Salsipuedes Creek, and the Pajaro River to minimize erosion and failure of exposed (or unvegetated), susceptible banks. This can be accomplished by operating the pumps at an appropriate flow rate, in conjunction with commencing operation of the pumps only when suitable water levels or flow rates are measured in the water body. Criteria for minimizing fluctuations and/or protecting banks from related erosion will need to be developed, as some banks presently are stable and others are not. Control is important, as the mobilized sediment also impairs in-slough habitat values, and potentially exacerbates bacterial levels in the slough system. It may be that water-level fluctuations may be controlled as well to minimize other impacts, such as desiccation of amphibian eggs or waterlogging of agricultural soils adjacent to the sloughs.</p>	B, D, E		X		Lead Agency	PVWMA	<input type="checkbox"/>

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<p>HWQ-3. If pumping rates in existing wells fall below levels that can support existing or planned land uses, and the reduction in pumping can be attributed to one or many of the project components, then one of several measures may be undertaken to mitigate the loss of pumping. These mitigation measures may include:</p> <ol style="list-style-type: none"> 1. Improving irrigation efficiency 2. Modifying irrigation and agricultural operations 3. Lowering the pump in the irrigation well 4. Lowering and changing the pump in the irrigation well 5. Adding storage capacity for irrigation supply 6. Replacing the irrigation well 7. Replacing the irrigation water source <p>To determine if well production loss can be attributed to one of the project components, the PVWMA will allow well owners to enroll in a monitoring and mitigation program (MMP). PVMWA will collect baseline data necessary for establishing significant impacts only from wells that are enrolled in the MMP. If a well is not enrolled in the MMP, to claim a</p>	D			X	Lead Agency	PVWMA	<input type="checkbox"/>

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significant impact the well owner will need to provide adequate and reliable baseline data. To claim a significant impact for each well enrolled in the MMP, PVWMA will first establish baseline irrigation well extraction rates, drawdowns, and water quality near planned components. Pumping rate reductions and changes in water quality from these baseline values will be analyzed to assess whether or not they are caused by the project. A pumping rate reduction or adverse change in water quality is assumed to be caused by the Project if: 1) it occurs at the same time as the onset of operations of BMP Update component(s); 2) it occurs in an area reasonably predicted to be affected by the BMP Update component(s); 3) static groundwater levels have dropped; 4) pumping groundwater levels have not dropped more than static groundwater levels; and 5) no other obvious reason exists for the drop in production capacity. For PVWMA or others to identify another reason for loss of production it must be based on the written professional opinion of a qualified hydrogeologist that will be submitted to the PVWMA staff or their designee, for review and concurrence.							
HWQ-4: Facilities shall be designated to comply with FEMA and County of Santa Cruz requirements to floodproof the facilities and shall not exacerbate	A, B, C, D, E	X			Lead Agency	PVWMA	<input type="checkbox"/>

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upstream or downstream flood hazards on other properties. The FEMA process will require identification of the FEMA floodway zone and may require no increase water elevations for a one percent chance annual flood. The FEMA process will require identification of the FEMA zone type and may require no increase water elevations for a one percent chance annual flood. To meet the specific FEMA requirements for the component, substantial modifications to the facility design and additional mitigation may be required.							
TR-1: Conduct a preconstruction survey of road conditions on key access routes to the project sites (e.g., San Andreas Road). The pavement conditions of local streets judged to be in good condition for use by heavy truck traffic shall be monitored. Roads damaged by construction shall be repaired to a structural condition equal to, or better than, that which existed prior to construction activity.	A, B, C, D, E		X	X	Lead Agency	PVWMA	<input type="checkbox"/>

KEY TO APPLICABLE COMPONENTS: (A) Increased Recycled Water Storage at Treatment Plant, (B) Harkins Slough Recharge Facilities Upgrades, (C) Watsonville Slough with Recharge Basins, (D) College Lake with Inland Pipeline to Coastal Distribution System (CDS), (E) Murphy Crossing with Recharge Basins