

Final Initial Study/Mitigated Negative Declaration

Marsh Creek Reservoir Restoration and Total Mercury Reduction Project



Prepared for:
Contra Costa County Flood Control and
Water Conservation District



Prepared by:



July 2026

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Chapter 1. Introduction

1.1 Document Overview

The Draft Initial Study/Mitigated Negative Declaration (IS/MND) was made available to the public for a 30-day review period from March 24, 2026 to April 23, 2026. This Final IS/MND for the Marsh Creek Reservoir Restoration and Total Mercury Reduction Project (project) consists of the following information:

- A list of persons, organizations, and public agencies commenting on the Draft IS/MND;
- Comments and recommendations received on the Draft IS/MND;
- The responses of the lead agency Contra Costa County Flood Control and Water Conservation District (District) to significant environmental points raised in the review and consultation process; and
- The project's Mitigation Monitoring and Reporting Program (MMRP).

Final IS/MNDs typically include revisions made to the Draft IS/MND based on comments received by the public or regulatory agencies, or minor revisions or other information added by the lead agency; however, as described in more detail in Chapter 2 of this Final IS/MND, no revisions were made to the Draft IS/MND or mitigation measures as detailed in the MMRP. This document, combined with the Draft IS/MND, comprises the Final IS/MND for the project.

Chapter 2. Comment Letters and Responses to Comments

2.1 Comments Introduction

This section contains written comments received on the Draft IS/MND during the 30-day public review period. Written responses were prepared addressing comments on significant environmental comments received from reviewers of the Draft IS/MND during the public review period. Comments provided on the Draft IS/MND by agencies and organizations during the public review period are documented in this chapter (**Table 2-1**).

Table 2-1 Comment Letters Received

Comment Letter No.	Commenting Entity/Agency	Date Received
1	California Department of Water Resources	April 9, 2026
2	California Department of Parks and Recreation	April 20, 2026
3	Confederated Villages of Lisjan Nation	April 23, 2026

2.2 Responses to Comments

This section presents a copy of the comment letter received on the Draft IS/MND during the review period, bracketing the individual comments in alpha and numeric order. Responses to issues raised in each letter follow immediately after the letter, sequentially.

2.2.1 Comment Letter 1 – California Department of Water Resources

Docusign Envelope ID: 034FA30F-8D2E-490D-A1A5-613405D76E1A

Comment Letter 1

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY

GAVIN NEWSOM, Governor

DEPARTMENT OF WATER RESOURCES

DIVISION OF SAFETY OF DAMS
2720 GATEWAY OAKS DRIVE, SUITE 300
SACRAMENTO, CA 95833-3500



April 9, 2026

Ms. Katelyn Matroni
GEI Consultants, Inc.
11010 White Rock Road, Suite 200
Rancho Cordova, California 95670

March Creek Dam Reservoir Restoration
SCH# 2026030945
Contra Costa County

Dear Ms. Matroni:

1-A

The Division of Safety of Dams (DSOD) has reviewed the Mitigated Negative Declaration for the Marsh Creek Reservoir Restoration and Total Mercury Reduction Project, submitted by Contra Costa County, which describes the removal of contaminated sediment accumulation and the restoration of flood storage capacity.

As proposed, none of the work will be subject to the jurisdiction of DSOD; as such, an alteration application is not required. However, all care must be taken when removing sediment from around the outlet inlet structure, and no dam embankment material may be removed. The riparian restoration component of the project includes planting various vegetation near the dam. Ensure that no woody vegetation is planted on the dam or within 10 feet of the toe of the dam. Any vegetation planted in the dam footprint must not obscure the embankment surface and will need to be maintained in accordance with the California Water Code.

If you have any questions or need additional information, you may contact Area Engineer Travis Chatters at (916) 565-7815 or me at (916) 565-7813.

Sincerely,

A handwritten signature in cursive script, appearing to read 'R. Bowlus'.

Russell C. Bowlus, P.E.
Northern Regional Engineer
Division of Safety of Dams

cc: Governor's Office of Planning and Research
State Clearinghouse
state.clearinghouse@lci.ca.gov

DWR 9004 (New 8/25)

Responses to Comments – Letter 1

1-A The District acknowledges DSOD's comments. While no project activities are subject to the jurisdiction of the Division of Safety of Dams (DSOD), the dam immediately adjacent to the north of the project footprint is subject to DSOD and care should be taken to avoid indirect effects. The project will be designed and constructed to include DSOD recommendations regarding work adjacent to the reservoir outlet structure and dam embankment. Project plans and specifications will ensure that no dam embankment material is removed and that vegetation planting within the vicinity of the dam is consistent with DSOD requirements, including restrictions on woody vegetation placement.

The comment provides advisory recommendations and does not comment on the adequacy of the IS/MND. Revisions to the Draft IS/MND are not required to respond to the comment. Thank you for providing comments on behalf of DSOD. Should you have any questions, please contact me at laura.cremin@pw.cccounty.us or (925) 313-2015.

2.2.2 Comment Letter 2 – California Department of Parks and Recreation

DocuSign Envelope ID: 81A39043-D8E8-44EC-8842-894614B33FFF



State of California • Natural Resources Agency

DEPARTMENT OF PARKS AND RECREATION

Diablo Range District • 15751 Tesla Rd, Livermore, CA 94550

Comment Letter 2

Gavin Newsom, Governor

Armando Quintero, Director

April 20, 2026

To: Laura Cremin
Planning Manager
Contra Costa County Public Works Department
255 Glacier Drive, Martinez, CA 94553
Laura.Cremin@pw.cccounty.us

RE: Initial Study/Draft Mitigated Negative Declaration for Marsh
Creek Reservoir Restoration and Total Mercury Reduction
Project

Dear Ms. Cremin,

This letter provides comments by the Diablo Range District of the California Department of Parks and Recreation (State Parks) on Contra Costa County Public Works Department's Initial Study/Draft Mitigated Negative Declaration (IS/MND) for Marsh Creek Reservoir Restoration and Total Mercury Reduction Project. Under the California Environmental Quality Act (CEQA), State Parks has a role as a Trustee and a Responsible Agency. As a Trustee Agency, State Parks is responsible for protecting lands that are held in trust for the People of the State of California. As Responsible Agency, State Parks will need to permit any temporary or permanent encroachment onto Marsh Creek State Park. This comment letter does not authorize issuance of a permit, or permanent or temporary easement, or indicate that any type of permit or easement will be granted.

2-A

Right of Entry Permitting. On page 1-2 of the draft IS-MND, it states, "A small portion of Marsh Creek adjacent to the West Wet Pool is located within lands managed by California State Parks; however, no work is proposed within this area, and it would likely not be accessed during construction or operation and maintenance of the project. Proposed wildlife-friendly fencing (for cattle exclusion) would be implemented in a few small areas of California State Park Land along upstream Marsh Creek." As noted in Table 1-1, installation of fencing on State Parks Property will require a Right of Entry Permit. To apply for a permit, please reach out to roe.diablorange@parks.ca.gov. You are encouraged to initiate all necessary permits with State Parks as early in the project planning process as possible.

2-B

Future Recreation Collaboration. On page 1-8, the draft IS-MND expresses hope for the possibility of future recreational collaboration once the mercury contamination is dealt with. State Parks would be very interested in exploring collaboration opportunities for trails and access.

2-C

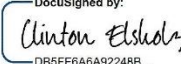
Cultural Resources. Diablo Range District encourages Contra Costa County Public Works Department to continue to work in collaboration and in consultation with the

2-C ↑ California Native American community. As noted in the draft IS-MND, this area is highly sensitive for buried cultural material.

2-D | Diablo Range District also recommends Contra Costa County Public Works Department consider the long-term impacts on the native use plant community in the area of potential effect. Marsh Creek State Park and the surrounding areas have numerous important cultural plants. Consideration should be made for placement of excavated soils in proximity to Native use plants to limit the impacts on the community that use them.

If you have any questions about this comment letter or would like to discuss project activities on State Parks property, please contact Diablo Range District Environmental Coordinator, Diana Fong, at 925-599-7656 or diana.fong@parks.ca.gov.

Sincerely,

DocuSigned by:

DB5FF6A6A92248B...
Clinton Elsholz
Diablo Range District Superintendent

Cc: California State Clearinghouse

Responses to Comments – Letter 2

- 2-A** The District acknowledges State Parks’ comments and appreciates the permit coordination information. The District will continue to coordinate with State Parks during final design and implementation of the project and will obtain any required permits or authorizations, including a Right of Entry Permit.
- 2-B** The District appreciates your interest in continued collaboration. The District recognizes the value of partnerships that support recreational access and will consider opportunities for future coordination with State Parks as planning and resources become available.
- 2-C** The District acknowledges State Parks’ comments, and remains committed to ongoing collaboration with local, interested Tribes. The District conducted AB 52 Consultation and will implement applicable mitigation measures and commitments (see Section 5, “Cultural Resources,” and Section 18, “Tribal Cultural Resources” of the Draft IS/MND). The District also recognizes the value of wider long-term engagement with the Tribes, such as for controlled burns, native plantings, access, educational signage, and other opportunities that may arise in the future.
- 2-D** The proposed project has been designed to improve long-term ecosystem functions through habitat enhancement, planting native plant communities, and invasive plant species management. Botanical surveys were completed for the project area, habitat and land cover types were mapped, and the IS/MND evaluated the potential for special-status plant species to occur within the project area (refer to Section 4, “Biological Resources,” on Page 2-25 of the Draft IS/MND). The project will comply with applicable permit requirements and conservation measures related to sensitive plant species. The project is located within an area governed by the East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan (ECCHCP and NCP). The District plans to use the ECCHCP and NCP for take authorization for covered species. In addition, the project includes a Revegetation Plan that provides for the establishment and monitoring of native vegetation following construction.

Excavated materials will be stockpiled in annual grassland areas that were subject to a history of cattle grazing and are dominated by invasive plant species, including yellow star-thistle, to avoid and minimize impacts to native plant communities. The stockpile area will be seeded with an erosion-control seed mix and managed in accordance with the project’s invasive species control measures.

Potential impacts to biological resources during construction, including future stockpile reuse activities, would be further minimized through implementation of Mitigation Measure BIO-1, which requires worker environmental awareness training and oversight by a qualified biological monitor during construction and other ground-disturbing activities.

Comments 2-A through 2-D provide advisory recommendations and do not comment on the adequacy of the IS/MND. Revisions to the Draft IS/MND are not required to respond to the comments. Thank you for providing comments on behalf of California State Parks. Should you have any questions, please contact me at laura.cremin@pw.cccounty.us or (925) 313-2015.

2.2.3 Comment Letter 3 – Confederated Villages of Lisjan Nation

Comment Letter 3

From: [Lisjan Nation](#)
To: [Laura Cremin](#)
Cc: [Gus Amirzadeh](#)
Subject: Re: Contra Costa County - Marsh Creek Reservoir Restoration - CEQA Public Notice
Date: Thursday, April 23, 2026 12:10:48 PM

This Message Is From an External Sender

This email originated from outside of Contra Costa County. Please do not click links or open attachments unless you are expecting this email.

[Report Suspicious](#)

Hi Laura,

Thank you for sharing the IS/MND. The Tribe has the following comments:

Thank you for consulting with the Tribe on this project and for incorporating mitigation measures related to Tribal Cultural Resources into this project. We look forward to working with you on a monitoring plan as construction gets closer. We also appreciate Contra Costa County working to minimize ground disturbance and to stockpile the soil on site rather than excavating the native soil to bury it.

3-A

We would like to remind the lead agency that Tribal Cultural Resources are not the same as archaeological resources and can include landscape features, culturally significant plants and animals, etc. This area was a large village site for at least 7000 years, and therefore this entire landscape is significant to the Tribe. While we agree that removing mercury-laden sediments from the reservoir is beneficial for water quality, we have concerns about both drying and then disposing of the sediments on site within this significant Tribal Cultural Landscape. Could you provide more information to the Tribe demonstrating that these sediments do not release any mercury into the environment as they dry or once they are dry? We have concerns about how this might impact traditional harvesting and tending practices, which we regularly carry out in this area. We are also concerned that with any rain, the mercury would seep back into Marsh Creek and back into the reservoir. We think that an off site disposal location would be more appropriate for this sediment.

3-B

Additionally, we understand that this mercury is coming from abandoned mercury mines upstream. We strongly recommend developing a plan to clean up those mines as soon as possible, which is not discussed in this report. We do not want further contamination from the construction of this reservoir that concentrates mercury in this Tribally significant area.]

3-C | The Tribe has concerns about the use of chemical additives and herbicides with regards to water quality in Marsh Creek and Tribal landscape tending practices. We oppose any use of glyphosate and other carcinogenic herbicides within this area due to their impacts to Tribal Cultural Resources. It would, however, be beneficial for native plants and animals as well as fuel mitigation to restore cultural fire to this area, and the Tribe would be happy to work with the lead agency to develop burn plans. We also are concerned about chemical additives within the reservoir due to their potential impacts on water quality. We would like more information about these plans, as the IS/MND is vague, despite the fact that adding chemical additives to the reservoir would have more significant environmental effects than natural materials such as sand.

3-D | The Tribe would also like to work with the lead agency on planting palettes for restoration and reseeding activities to ensure that they support traditional Tribal practices within this area.

We thank you for consulting with us and for your consideration.

'Uni (Respectfully),

Lucy Beyhan, Cultural Resource Manager II
Confederated Villages of Lisjan Nation

Responses to Comments – Letter 3

- 3-A** The District appreciates the Confederated Villages of Lisjan Nation’s (CVLN’s) comments and continued coordination to protect Tribal Cultural Resources. We acknowledge that Tribal Cultural Resources encompass more than archaeological resources, including landscape features, culturally significant plants and animals, and that the entire landscape is culturally significant to the Tribe.

In regard to concerns of mercury during drying and stockpiling, the project was designed to remove, isolate, and reduce the accumulation of mercury within the reservoir; all of which would improve the existing conditions of the entirety of the project area which is culturally significant to CVLN.

As described in detail in Pages 2-96 through 2-97 in Section 2.9, “Hazardous and Hazardous Materials,” of the Draft IS/MND, a Pre-Dredge Sediment Evaluation Report (Report) was prepared for the Central Valley Regional Water Quality Control Board (CVRWQCB). The Report summarizes sediment and soil sampling activities conducted in the project area, presents the results of those sampling activities, compares the soil sampling findings with CVRWQCB screening values for drinking water (screening values relevant to any potential harvesting of the area by CVLN), and proposes a soil sampling program (Contra Costa County Flood Control and Water Conservation District 2025).

Sampling activities were prepared in three phases and in addition to mercury, samples were tested for many different contaminants including metals and pesticides. Overall, sampling results indicate that mercury concentrations within the accumulated sediment of the wet pool were lower than expected, and levels of mercury and other heavy metals were well below thresholds for hazardous waste. Meaning, sediment within the project area contained levels below environmental screening levels regulated by the CVRWQCB, and the sediment could be reused, rather than requiring disposal (either onsite reburial or off-haul to permitted facility). Furthermore, the sampling data showed that the mercury concentrations in the wet pool have decreased over time, with higher concentrations observed in the deeper, older sediment layers compared to shallower, more recent deposits. This could be an indicator that the incoming mercury from the upstream mine is reducing in concentration over time (Contra Costa County Flood Control and Water Conservation District 2025).

As described in detail on Pages 2-104 through 2-107 in Section 2.10, “Hydrology and Water Quality,” of the Draft IS/MND, the project’s sediment drying area is a temporary feature during construction and will be utilized during the dry season in accordance with permitted environmental work windows. Once dry, the sediment will be moved to the designated stockpile location east of Marsh Creek Road. The temporary drying area will be restored to pre-project or improved conditions, and the sediment stockpile will be stabilized and revegetated immediately following sediment placement. Both the sediment drying and stockpile areas would be designed with specific best management practices (BMPs) to prevent sediment and pollutants from moving offsite into downstream areas or receiving waters. The BMPs fall into several categories, including erosion control,

sediment control, hazardous material control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the project areas.

Such BMPs could include, but would not be limited to, silt curtains, silt fencing, straw bale barriers, fiber rolls, storm drain inlet protection, hydraulic mulch, and a stabilized construction entrances. The project includes development of site-specific structural and operational BMPs to prevent and control impacts on runoff quality, measures to be implemented before each storm event, inspection, maintenance of BMPs, and monitoring of runoff quality by visual and/or analytical means.

The District's soil sampling program would ensure that sampling and testing would occur during excavation activities and after soils are temporarily stockpiled, prior to beneficial reused by the District or other partners in the region. All sampling methods and requirements would be established in coordination with the CVRWQCB.

- 3-B** The District agrees that addressing the upstream source of mercury contamination is an important regional objective. However, the abandoned Mount Diablo Mercury Mine that is contributing to mercury in the watershed is outside the ownership and regulatory authority of the District. Cleanup and regulation of abandoned mercury mines are the responsibility of the agencies with jurisdiction over those sites, including the U.S. Environmental Protection Agency (EPA), the Department of Toxic Substances Control (DTSC), and the CVRWQCB.

A primary objective of the project is to remove accumulated sediment from the wet pool, which will remove mercury that was historically received from the contaminated upper watershed. The project would also restore the flood storage capacity of the reservoir to original conditions and improve habitat conditions. Increasing the storage capacity of the reservoir will also allow any future incoming mercury-laden sediment to settle out, which would provide ongoing water quality benefit. The project design considered the removal and containment of mercury-laden materials, and the project includes a soil sampling program, as described in more detail in response to comment 3-A.

This project does not include any other study of mercury levels in the upper watershed of Marsh Creek and does not include water quality monitoring. However, other local agencies are conducting water quality studies in the region, including Contra Costa Clean Water Program's Urban Creek Monitoring Reports (Contra Costa County 2026). More information on this program can be found at the following link:
<https://cccleanwater.org/monitoring-assessment/>

- 3-C** Invasive species control during the restoration establishment period will use an integrated pest management approach. Herbicide is only one of the tools used to control invasive species and will be used only when necessary for targeted invasive species control under the direction of a Pest Control Advisor in accordance with all applicable regulations and environmental permit requirements. For example, application of herbicide will be used to control tree tobacco (*Nicotiana glauca*) with a targeted cut and paint approach. The tree is cut and herbicide is immediately painted directly on the freshly cut stump. This is a

highly effective method to provide invasive species control that minimizes the amount of herbicide use. Additionally, some herbicide application may be necessary for native perennial grassland establishment and control of broadleaf weeds. Other vegetation management methods would include timed-mowing, hand-weeding around native plantings, and other non-chemical techniques to promote successful establishment of native vegetation.

As described on Page 1-11 in Section 1, “Project Description,” of the Draft IS/MND, soil remediation treatment may include a carbon-based sorbent powder, application of biochar, or natural materials such as a layer of clean sand. All these media of treatment have been found to reduce the accumulation of mercury in biota studied and have been tested and approved by regulatory agencies, including the EPA. However, the District is committed to reducing the use of chemical additives, wherever possible to meet the objectives of the project in the most environmentally safe manner; and 90 percent designs for the project indicate the use of a clean layer of sand, at this time. The IS/MND included the potential use of chemical additives to provide flexibility for the District and its contractors, in case natural materials are found to be less effective in reducing the accumulation of mercury. Results will be monitored via a soil sampling program (see more details above in response to comments 3-A and 3-B, above). Also, it should be noted that if chemical additives are used, it would be a one-time distribution. Please reach out to the District for additional interest or questions regarding the soil sampling results and mercury-accumulation media used after excavation activities for the project.

In regard to controlled burns, the District is partnering with the Contra Costa County Resource Conservation District (CCRCD) to conduct control burns on the property. This is described in further detail on Pages 2-100 through 2-101 in Section 2.9, “Hazards and Hazardous Materials,” in the Draft IS/MND. CCRCD is the lead agency implementing the East County Vegetation Treatment Program, a regional project under the CalVTP. CCRCD is developing a California Environmental Quality Act (CEQA) Project Specific Analysis (PSA) for 16,000 acres of grassland and oak woodland habitat. The District parcel is currently planned to be included as one of the treatment units, and controlled burns will focus on control of the yellow-star thistle and other highly invasive species that occur on site.

Currently, the first controlled burn is expected to occur in Fall 2027 to coincide with the best treatment time for yellow-star thistle. Follow-up controlled burns may be scheduled, as recommended after the first treatment. The CEQA PSA is currently in development by CCRCD as lead agency and is expected to be available this summer. Tribal outreach will be included in this CEQA document, and the District will notify CCRCD of CVLN’s interest. Please also reach out to the District directly for any interest and questions regarding the controlled burn for this proposed project, specifically.

- 3-D** Thank you for your participation in the development of the restoration planting palette and revegetation activities. The District intends to share the landscape plan, including the planting palette with CVLN. We welcome input regarding native species that support traditional Tribal practices.

After consideration of all comments, it was determined that revisions to the Draft IS/MND are not required to respond to the comments. Thank you for providing comments on behalf of CVLN. Should you have any questions, please contact me at laura.cremin@pw.cccounty.us or (925) 313-2015.

Chapter 3. Mitigation Monitoring and Reporting Program

Section 21081.6(a)(1) of the California Public Resources Code (PRC) and Section 15097 of the State California Environmental Quality Act (CEQA) Guidelines require a public agency to adopt a reporting and monitoring program on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental impacts on the physical environment.

This Mitigation Monitoring and Reporting Program (MMRP) will be used by the Contra Costa County Flood Control and Water Conservation District (District) to ensure that mitigation measures identified for the Marsh Creek Reservoir Restoration and Total Mercury Reduction Project (project) are implemented as described in the Initial Study/Mitigated Negative Declaration (IS/MND) and that their implementation is documented.

As the CEQA lead agency, the District is responsible for implementing all mitigation measures in the IS/MND. CEQA Guidelines Section 15097 states that a public agency may delegate reporting or monitoring responsibilities to another public agency which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the MMRP.

This MMRP is presented in tabular format (**Table 3-1**). The table columns contain the following information:

- **Mitigation Number:** Lists the mitigation measures by number, as designated in the IS/MND.
- **Mitigation Measure:** Provides the title and text of the mitigation measures.
- **Implementation Timing:** Lists the time frame in which the mitigation measure is expected to take place. Mitigation and monitoring responsibilities are organized by implementation timing of different aspects of each measure.
- **Monitoring or Reporting Responsibility:** Identifies the entity responsible for monitoring implementation of the actions described in the mitigation measures. Verification will be carried out during the project by the District or the responsible entity. Where the District is not responsible for monitoring or reporting, the District may regularly request information on the status of mitigation measure implementation for tracking purposes.

Table 3-1. Mitigation Monitoring and Reporting Program for the Marsh Creek Reservoir Restoration and Total Mercury Reduction Project Initial Study/Mitigated Negative Declaration

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
AQ-1	Implement BAAQMD Basic Best Management Practices for Construction-Related Fugitive Dust Emissions. The BAAQMD Best Management Practices, which are strongly recommended for all construction projects, regardless of the amount of emissions generated, include the following: ▪ B-1 All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. ▪ B-2 All haul trucks transporting soil, sand, or other loose material off-site shall be covered. ▪ B-3 All visible mud or dirt trackout onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. ▪ B-4 All vehicle speeds on unpaved roads shall be limited to 15 mph. ▪ B-5 All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. ▪ B-6 All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph. ▪ B-7 All trucks and equipment, including their tires, shall be washed off prior to leaving the site. ▪ B-8 Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel. ▪ B-9 Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations.	During construction activities	The District and its construction contractor(s)
AQ-2	Implement BAAQMD Enhanced Best Management Practices for Construction-Related Fugitive Dust Emissions. The District will implement the following enhanced BMPs to reduce emissions to the extent feasible. ▪ E-1 Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities. ▪ E-3 Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established.	During construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	▪ E-4 Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent. ▪ E-5 Minimize the amount of excavated material or waste materials stored at the site. ▪ E-6 Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, that are inactive for at least 10 calendar days.		
BIO-1	Worker Environmental Awareness Training Program and Qualified Biological Monitor. The District and its contractor(s) will retain a qualified biological monitor for the duration of construction (sediment excavation, drying, stockpiling, other ground disturbance), initial restoration installation activities, and during future stockpile soil removal activities. During vegetation clearing, initial ground disturbance and dewatering, as well as at Project-appropriate intervals, a qualified biologist(s) would monitor construction activities that could potentially cause significant impacts on sensitive biological resources. The amount and duration of monitoring would depend on the activity and would be determined by the qualified biologist. The duties of the qualified biologist will comply with all agency conditions outlined in project-related permits, but could include activities such as clearance surveys, flagging or fencing off environmentally sensitive areas for avoidance, and construction monitoring. The qualified biologist will have the necessary approvals for surveying and monitoring through the East Contra Costa County Habitat Conservancy. In addition, a qualified biologist would be retained to conduct mandatory contractor/worker environmental awareness training for any personnel required to enter the project site, including personnel entering the site during future stockpile soil removal activities. The awareness training would be provided to all personnel required to enter the project site to inform them on the locations of sensitive biological resources, the need to avoid impacts on biological resources (for example, wildlife and aquatic resources), and to brief them on the penalties for not complying with biological mitigation requirements. If new construction personnel are added, the contractor would require them to receive the mandatory training prior to starting work. On completion of this training, each person will sign a form, confirming attendance and their understanding of all the avoidance and minimization measures.	Before and during construction activities, including future activities in the sediment stockpile area	The District and its construction contractor(s)
BIO-2	Crotch's Bumble Bee Surveys, Avoidance, and Minimization. The District and its contractor(s) will implement the following measures to avoid and minimize potential for adverse impacts on Crotch's bumble bee that may result from project implementation. Biologist qualifications for bumble bee surveys will conform to current CDFW guidance prevailing at the time surveys are performed. Focused surveys in suitable upland habitat will be conducted in accordance with CDFW's <i>Survey Considerations for CESA Candidate Bumble Bee Species</i> (2023) (or with CDFW guidance prevailing at the time surveys are performed) during the season immediately	Before and during construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	prior to ground disturbing activities are scheduled to occur. Surveys shall cover areas where Crotch's bumble bee suitable habitat has the potential to be impacted by project activities as determined by the qualified biologist, based on habitat mapping conducted for the project to date. Crotch's bumble bee focused surveys ("foraging surveys") will be conducted by a qualified biologist at 2-to-4-week intervals (ideally monthly) during the active season (February through October), ideally during the colony active period (April through August) when Crotch's bumble bees are most likely to be detected. Survey guidelines recommend at least three foraging surveys done in this time period; however, if Crotch's bumble bee is observed during the first or second round of foraging surveys then the biologist can move onto nesting surveys as described below. The total number, timing, and duration of surveys performed shall depend on the biologist's judgment, in consideration of weather, site conditions, and protocol requirements, and what is agreed upon in negotiation with CDFW. If Crotch's bumble bee is observed onsite during the initial surveys, an additional survey or surveys shall be conducted to determine whether a nest or colony is present ("nesting survey"), unless the biologist is satisfied that the initial survey(s) were sufficient to rule out the presence of nests/colonies. Nesting surveys should be done during either the queen flight season (February through March) or the colony active period (April through August) but should be done between one week and 24 hours immediately prior to ground disturbing activities scheduled to occur during these seasons. If an active Crotch's bumble bee nest is detected, these nests shall be demarcated with a flagged no disturbance buffer zone, as determined by a qualified biologist and shall be avoided during the active season from February 1 through October 31, or until the qualified biologist, in consultation with CDFW, has determined that the nest is no longer active. The active nest shall be monitored by the qualified biologist to confirm effectiveness at minimizing disturbance of the nest and essential activities of its occupants. If no nests are found but the species is documented during the nest surveys, a qualified biological monitor will be present during vegetation removal and initial ground disturbing activities that occur during the flight season (February through October). If a Crotch's bumble bee is observed, a temporary buffer will be established around the individual until the biologist determines it is no longer present in the construction area. Because bumble bees move nest sites each year, preconstruction foraging surveys (and if found, follow-up nesting surveys) will be required during each year of construction, regardless of the previous year's findings, whenever vegetation removal and/or ground disturbing activities would occur during the flight season (February through October).		
BIO-3	Monarch Surveys, Avoidance, and Minimization. The District and its contractor(s) will implement the following measures to avoid and minimize potential for adverse impacts on monarch to result from project implementation. A qualified biologist will survey for monarch butterfly larval host plants within suitable habitat within 4 weeks prior to construction, (sediment excavation, drying, stockpiling, other ground disturbance), initial restoration installation activities, and prior to future	Before and during construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	stockpile soil removal activities. If host plants are found, the biologist would conduct surveys for adult monarch butterflies to determine presence/absence, or presence may be assumed. Where adult monarch butterflies are present, or assumed to be present, construction personnel would avoid host plants (milkweed) in temporary impact areas during the breeding/flight season (March through November), where possible. If milkweed removal is unavoidable and would occur during the breeding/flight season, plants would be searched for eggs/pupae/larvae prior to removal. If eggs/pupae/larvae are detected, an appropriate no disturbance buffer zone will be established around the hostplant to reduce the risk of disturbance or accidental mortality. The appropriate buffer size and shape will be determined by the qualified biologist and monitored to confirm effectiveness at minimizing disturbance of the nest and essential activities of its occupants. Avoidance buffers may be removed at the completion of metamorphosis (eggs, pupae, larvae no longer present) and/or once the qualified biologist deems breeding no longer active. Alternatively, early season (prior to breeding) clearance and salvage of milkweed could occur by salvaging soil/seedbank or young plants in areas where ground disturbance is proposed, and milkweed is known to occur and cannot be avoided. Salvaged soil should be replaced after construction. Young plants should be transplanted onsite, prioritizing areas with similar conditions (associates, soil, exposure, moisture, aspect, etc.) compared to the location from where they were removed. Transplanting should only occur prior to monarch breeding season or if it is confirmed no monarch eggs/pupae/larvae are present. If no eggs/pupae/larvae are found but the species is documented during surveys, a qualified biological monitor will be present during vegetation removal and initial ground disturbing activities that occur during the flight season (February through October). If a monarch is observed, a temporary buffer will be established around the individual until the biologist determines it is no longer present in the construction area. Preconstruction surveys will be required during each year of construction, regardless of the previous year's findings, whenever vegetation removal and/or ground disturbing activities would occur during the flight season.		
BIO-4	Monarch Management Measures. The District and its contractor(s) will implement the following management measures to avoid and minimize potential for adverse impacts on monarch during pre- or post-construction site maintenance activities. ▪ Vegetation management, including herbicide application, burning, and mowing will be conducted in the recommended management window for the region (November 15 to March 15) as defined in the USFWS's <i>Western Monarch Butterfly Conservation Recommendations</i> (2023), to the greatest extent possible. ▪ Insecticides will not be used onsite. ▪ Avoid use of pesticides and herbicides within 40 feet of milkweed, to the greatest extent possible.	Before, during and after construction activities and restoration activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	If burning during the monarch breeding season is necessary for weed control or other management objectives, either flag and avoid milkweed, or clear milkweed for eggs/pupae/larvae prior to management.		
BIO-5	California Tiger Salamander Avoidance and Minimization (HCP/NCCP Species Specific Minimization Measure). The District and its contractor(s) will implement the following measures consistent with those specified in the HCP/NCCP to avoid and minimize potential for adverse impacts on California tiger salamander to result from project implementation: Written notification to USFWS, CDFW, and the Conservancy, including photos and breeding habitat assessment, is required prior to disturbance of any suitable breeding habitat. The District will also notify these parties of the approximate date of removal of the breeding habitat at least 30 days prior to this removal to allow USFWS or CDFW staff to translocate individuals, if requested. USFWS or CDFW must notify the District of their intent to translocate California tiger salamanders within 14 days of receiving notice from the District. The applicant must allow USFWS or CDFW access to the site prior to construction if they request it. There are no restrictions under the HCP/NCCP on the nature of the disturbance or the date of the disturbance unless CDFW or USFWS notify the District of their intent to translocate individuals within the required time period. In this case, the District must coordinate the timing of disturbance of the breeding habitat to allow USFWS or CDFW to translocate the individuals. USFWS and CDFW will be allowed 45 days to translocate individuals from the date the first written notification was submitted by the District (or a longer period agreed to by the District, USFWS, and CDFW).	Before and during construction activities	The District and its construction contractor(s)
BIO-6	Best Management Practices (HCP/NCCP Conservation Measure 1.13). The District and its contractor(s) will implement the following measures consistent with those specified in the HCP/NCCP general best management practices specific to flood control facility projects to reduce impacts on waterways and aquatic species: 1. Silt fencing or other sediment trapping methods will be installed down gradient from construction activities, to minimize the transport of sediment off-site. 2. After cleaning culverts, subdrains, and other flood-control infrastructure, silt will be disposed of in an approved upland stockpile site where the material cannot reenter a waterway. 3. If water and sludge must be pumped from a subdrain or other structure, the material will be conveyed to a settling basin to prevent sediment from entering the waterway. 4. Power tools and heavy equipment used for flood-control maintenance (e.g., silt or vegetation removal) will be serviced and fueled away from waterways in a designated area. Spills will be absorbed and waste disposed of in a manner that will prevent pollutants from entering a waterway.	Before, during, and after construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	5. Timing of maintenance activities in rural areas will consider seasonal requirements for aquatic species (including covered species).		
BIO-7	Aquatic Resources Avoidance and Minimization (HCP/NCCP Conservation Measure 2.12). The District and its contractor(s) will implement the following measures consistent with those specified in the HCP/NCCP to reduce impacts on Marsh Creek, the Reservoir, and other aquatic resources in the vicinity: 1. Prior to the start of construction, all portions of Marsh Creek and other waterways to be avoided by the Project will be temporarily staked in the field by a qualified biologist. 2. Before conducting construction activities, all construction personnel will attend environmental awareness training (see BIO-1). 3. To eliminate possibly attracting predators of protected species, all food-related trash items (e.g., wrappers, cans, bottles, and food scraps) will be disposed in solid, closed containers (trash cans) and will be removed from the BSA at the end of each working period. 4. No construction or maintenance vehicles will be refueled within 200 feet of the streams unless a bermed and lined refueling area is constructed and hazardous material absorbent pads are available in the event of a spill. 5. Appropriate erosion-control measures (e.g., fiber rolls, filter fences) will be used on site to reduce siltation and runoff of contaminants into the stream. Filter fences and mesh will be of material that will not entrap reptiles and amphibians. Erosion control blankets will be used as a last resort because of their tendency to biodegrade slowly and to trap reptiles and amphibians. 6. Fiber rolls used for erosion control will be certified as free of noxious weed seed and not contain plastics of any type. 7. Seed mixtures applied for erosion control will not contain invasive non-native species and will be composed of native species or sterile non-native species. 8. Herbicide will not be applied within 100 feet of wetlands, ponds, streams, or riparian woodland/scrub; however, where appropriate to control serious invasive plants, herbicides that have been approved for use by EPA in or adjacent to aquatic habitats may be used as long as label instructions are followed and applications avoid or minimize impacts on covered species and their habitats. In seasonal or intermittent stream or wetland environments, appropriate herbicides may be applied during the dry season to control non-native invasive species (e.g., yellow star-thistle). Herbicide drift should be minimized by applying the herbicide as close to the target area as possible."	Before, during, and after construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
BIO-8	California Red-legged Frog Avoidance and Minimization (HCP/NCCP Species Specific Minimization Measure). The District and its contractor(s) will implement the following measures consistent with those specified in the HCP/NCCP to avoid and minimize potential for adverse impacts on California red-legged frog to result from project implementation: Written notification to USFWS, CDFW, and the Conservancy, including photos and breeding habitat assessment, is required prior to disturbance of any suitable breeding habitat. Marsh Creek, the Reservoir, and fringing wetlands have been identified as potentially suitable breeding habitat. The District will also notify these parties of the approximate date of removal of the breeding habitat at least 30 days prior to this removal to allow USFWS or CDFW staff to translocate individuals, if requested. USFWS or CDFW must notify the District of their intent to translocate California red-legged frog within 14 days of receiving notice from the District. The applicant must allow USFWS or CDFW access to the site prior to construction if they request it. There are no restrictions under the HCP/NCCP on the nature of the disturbance or the date of the disturbance unless CDFW or USFWS notify the District of their intent to translocate individuals within the required time period. In this case, the District must coordinate the timing of disturbance of the breeding habitat to allow USFWS or CDFW to translocate the individuals. USFWS and CDFW will be allowed 45 days to translocate individuals from the date the first written notification was submitted by the District (or a longer period agreed to by the Project proponent, USFWS, and CDFW).	Before and during construction activities	The District and its construction contractor(s)
BIO-9	Burrowing Owl Avoidance and Minimization (HCP/NCCP Species Specific Minimization Measure). The District and its contractor(s) will implement the following measures consistent with those specified in the HCP/NCCP to avoid and minimize potential for adverse impacts on burrowing owl to result from project implementation: Prior to any ground disturbance related to covered activities, a USFWS/CDFW-approved biologist will conduct a preconstruction survey in areas that support potential burrowing owl habitat. The surveys will establish the presence or absence of western burrowing owl and/or habitat features and evaluate use by owls in accordance with CDFW survey guidelines (California Department of Fish and Game 2012). The biologist will survey the proposed disturbance footprint and a 500-foot radius from the perimeter of the proposed footprint to identify burrows and owls. Adjacent parcels under different land ownership will not be surveyed. Surveys will occur near sunrise or sunset in accordance with CDFW guidelines. All burrows or burrowing owls will be identified and mapped. Surveys will take place no more than 30 days prior to construction. During the breeding season (February 1– August 31), surveys will document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1–January 31), surveys will document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results will be valid only for the season (breeding or nonbreeding) during which the survey is conducted.	Before and during construction activities, including future activities in the sediment stockpile area	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	If burrowing owls are found during the breeding season (February 1 – August 31), the District will avoid all nest sites that could be disturbed by Project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance will include establishment of a non-disturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1 – January 31), the District will avoid the owls and the burrows they are using, if possible. Avoidance will include the establishment of a buffer zone (described below). During the breeding season, buffer zones of at least 250 feet in which no construction activities can occur will be established around each occupied burrow (nest site). Buffer zones of 160 feet will be established around each burrow being used during the nonbreeding season. The buffers will be delineated by highly visible, temporary construction fencing. If occupied burrows for burrowing owls are not avoided, passive relocation will be implemented. Owls will be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The Project area should be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation. Plastic tubing or a similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.		
BIO-10	Swainson's Hawk Survey, Avoidance, and Minimization (HCP/NCCP Species Specific Minimization Measure). The District and its contractor(s) will implement the following measures consistent with those specified in the HCP/NCCP to avoid and minimize potential for adverse impacts on Swainson's hawk to result from project implementation: Prior to any ground disturbance related to covered activities (including construction, operations and maintenance activities that require heavy equipment use, and future stockpile soil removal activities) that occurs during the nesting season (March 15–September 15), a qualified biologist will conduct a preconstruction survey no more than 1 month prior to construction to establish whether Swainson's hawk nests within 1,000 feet of the project site are occupied. If potentially occupied nests within 1,000 feet are off the project site, then their occupancy will be determined by observation from public roads or by observations of Swainson's hawk activity (e.g., foraging) near the project site. If nests are occupied, minimization measures and construction monitoring are required (see below). During the nesting season (March 15–September 15), covered activities within 1,000 feet of occupied nests or nests under construction will be prohibited to prevent nest abandonment. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be	Before, during, and after construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	used, the Conservancy will coordinate with CDFW/USFWS to determine the appropriate buffer size. If young fledge prior to September 15, covered activities can proceed normally. If the active nest site is shielded from view and noise from the project site by other development, topography, or other features, the District can apply to the Conservancy for a waiver of this avoidance measure. Any waiver must also be approved by USFWS and CDFW. While the nest is occupied, activities outside the buffer can take place. All active nest trees will be preserved on site, if feasible. Nest trees, including non-native trees, lost to covered activities will be mitigated by the District according to the requirements below. <i>Mitigation for Loss of Active Nest Trees:</i> The loss of non-riparian active Swainson's hawk nest trees will be mitigated by the project proponent by: ▪ If feasible on-site, planting 15 saplings for every tree lost with the objective of having at least 5 mature trees established for every tree lost according to the requirements listed below. AND either 1. Pay an additional fee to purchase, plant, maintain, and monitor 15 saplings on the HCP/NCCP Preserve System for every tree lost according to the requirements listed below, OR 2. The District will plant, maintain, and monitor 15 saplings for every tree lost at a site (e.g., within an HCP/NCCP Preserve or existing open space linked to HCP/NCCP preserves), according to the requirements listed below. The following requirements will be met for all planting options: ▪ Tree survival will be monitored at least annually for 5 years, then every other year until year 12. All trees lost during the first 5 years will be replaced. Success will be reached at the end of 12 years if at least 5 trees per tree lost survive without supplemental irrigation or protection from herbivory. Trees must also survive for at least 3 years without irrigation. ▪ Irrigation and fencing to protect from deer and other herbivores may be needed for the first several years to ensure maximum tree survival. ▪ Native trees suitable for this site should be planted. When site conditions permit, a variety of native trees will be planted for each tree lost to provide trees with different growth rates, maturation, and life span, and to provide a variety of tree canopy structures for Swainson's hawk. This variety will help to ensure that nest trees will be available in the short term (5-10 years for cottonwoods and willows) and in the long term (e.g., Valley oak, sycamore). This will also minimize the temporal loss of nest trees. ▪ Riparian woodland restoration conducted as a result of covered activities (i.e., loss of riparian woodland) can be used to offset the nest tree planting requirement above, if the nest trees are riparian species.		

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	- Whenever feasible and when site conditions permit, trees should be planted in clumps together or with existing trees to provide larger areas of suitable nesting habitat and to create a natural buffer between nest trees and adjacent development (if plantings occur on the development site). - Whenever feasible, plantings on the site should occur closest to suitable foraging habitat outside the urban development area. - Trees planted in the HCP/NCCP preserves or other approved offsite location will occur within the known range of Swainson's hawk and as close as possible to high-quality foraging habitat.		
BIO-11	Golden Eagle Survey, Avoidance, and Minimization (HCP/NCCP Species Specific Minimization Measure). The District and its contractor(s) will implement the following measures consistent with those specified in the HCP/NCCP to avoid and minimize potential for adverse impacts on golden eagle to result from project implementation: Prior to implementation of covered activities (including construction, operations and maintenance activities that require heavy equipment use, and future stockpile soil removal activities), a qualified biologist will conduct a preconstruction survey to establish whether active nests of golden eagles are present within 0.5 mile of the project site. If active nests are present, minimization requirements and construction monitoring will be required as described below. Covered activities will be prohibited within 0.5 mile of active nests. Nests can be built and active at almost any time of the year, although mating and egg incubation occurs late January through August, with peak activity in March through July. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be appropriate or that a larger buffer should be implemented, the Conservancy will coordinate with CDFW/USFWS to determine the appropriate buffer size. Construction monitoring will focus on ensuring that no covered activities occur within the buffer zone established around an active nest.	Before and during construction activities	The District and its construction contractor(s)
BIO-12	Nesting Bird Surveys. If feasible, project construction and operations and maintenance activities that would disturb suitable nesting habitat would be conducted outside the bird nesting season (February 1 through August 31). However, if these activities would occur during the bird nesting season, then preconstruction surveys to identify active bird nests, including raptors, would be conducted by a qualified biologist within 7 days of beginning the activities. Focused surveys will be conducted by a qualified biologist for the purposes of determining presence or absence of active nest sites within the project site and a 250-foot boundary, where feasible. If project activities occur in or near suitable tricolored blackbird nesting habitat during tricolored blackbird nesting season (April 1 to July 1), then surveys to identify active colonies should be conducted and if identified, avoided in consultation with the Conservancy.	Before ground disturbance or vegetation clearing, including future activities in the sediment stockpile area	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
BIO-13	Nest Avoidance. If active nest sites are identified within the survey areas, a no-disturbance buffer will be established for all active nest sites prior to commencement of project activities to avoid disturbances to bird nesting activities. A no-disturbance buffer constitutes a zone in which project-related activities (vegetation removal, earth moving, noise generation, and other construction and operations and maintenance activities) cannot occur. The size of the no disturbance buffers would be determined by a qualified biologist based on the species, activities proposed near the nest, and topographic and other visual barriers. A qualified biologist will monitor each nest to confirm the buffer is adequate to avoid disturbance until it is deemed inactive or until construction activities move out of the no-disturbance buffer. The qualified biologist has the right to stop work if disturbance to care of eggs or young or nestling behavior is observed. If active nests are detected in the survey area, work within 0.5 mile of golden eagle nests, 1,000 feet of Swainson's hawk nests, 300 feet of other raptor nests, and 50 feet of passerine nests will be avoided until a qualified biologist determines that nesting activity has been completed. If it is not feasible to implement this avoidance buffer, a site-specific plan will be developed by a qualified biologist in coordination with the appropriate agencies to determine if a reduced avoidance buffer is appropriate based upon 1) the type and duration of construction activities being conducted, 2) sensitivity or acclimation to disturbance, 3) the topography surrounding the nest site, and/or 4) the implementation of additional protective measures.	Before and during construction activities, ground disturbance, and vegetation clearing, including future activities in the sediment stockpile area	The District and its construction contractor(s)
BIO-14	Special-status Bat Survey, Avoidance, and Minimization. The District and its contractor(s) will implement the following measures to reduce potential effects on special-status bats associated with project construction: Habitat Assessment. Within 8 weeks prior to initiation of project activities, a qualified biologist will conduct a daytime survey to assess all trees and structures in the construction area to determine if they contain suitable bat roosting habitat (e.g., cavities, crevices, deep bark fissures), noting features with high potential for use by roosting bats. The survey will identify locations of potential roost habitat features and potential direct and indirect project-related disturbing activities to those features. The daytime survey will include visual inspection of potential roost features to determine whether there is evidence of use by bats (e.g., urine staining, guano, etc.). If bats are observed, attempts will be made to identify individuals to species and estimate number of individuals. If special-status bats are identified, CDFW will be notified. Bat Survey. Based on the results of the habitat assessment, the qualified biologist will determine whether a nighttime emergence survey will be conducted at each potential roost feature. Nighttime emergence surveys will document the number of bats exiting each feature and identification to species, if possible. If special-status bats are identified, CDFW will be notified. In addition, occupancy surveys will be conducted immediately prior to disturbance of roost features determined by the qualified biologist to have high potential for bat use. If potential roost features are unoccupied, work activities may proceed. The qualified	Before and during construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	biologist will have the authority to determine if it is necessary to direct and monitor activities relating to disturbance or removal of roost features. Biologist direction may include tiered removal of trees or modification of structures, as described in the following section. ▪ Tiered Tree Removal and Structure Modification. To minimize the likelihood of impacting roosting bats, tiered removal of trees or modification of structures with roost features known or suspected to support bats, based on the results of the habitat and bat surveys described above, will be conducted at the direction of the qualified biologist. Tiered tree removal or structure modification will occur over 2 or more days to make these trees/structures less desirable for roosting, and to encourage any bats that could be in residence to relocate to alternate roosts prior to tree felling, or to move to other areas of structures before exiting structures of their own volition at night. Removal or modification of these roost features will occur under the supervision of a qualified biologist during periods when bats are active and capable of flight, approximately between March 1 to April 15 and August 15 to October 15; outside of bat maternity roosting season (approximately April 15 – August 31), and outside of months of winter torpor (approximately October 15 – February 28), to the extent feasible. ▪ If removal of trees or disturbance to other roost features during the periods when bats are active and capable of flight is not feasible, and active bat roosts being used for maternity or winter torpor purposes are found within or in the immediate vicinity of planned tree removal or other disturbance, an appropriate no-disturbance buffer will be established around the roost sites until they are determined by a qualified biologist to be no longer active. Recommended buffers will follow guidelines from the Caltrans Bat Mitigation Report (H. T. Harvey & Associates 2021, Table 7-1). The qualified biologist will have the authority to order the cessation of all nearby project activities until an appropriate buffer can be established. If appropriate buffers cannot be maintained, CDFW will be contacted to determine a site-specific approach for minimizing impacts to roosting bats. ▪ Trees/structures with roost features known or suspected to support roosting bats will only be disturbed/removed when no rain is occurring or projected to occur for 3 days, when nighttime winds are projected to be below 11 miles per hour, and when daytime temperatures are at least 50 degrees Fahrenheit. ▪ For each tree removed that is known or suspected to support roosting bats, tiered tree removal may include some or all the following approaches, as determined by the qualified biologist. ○ Remove all unaffected limbs (those without potential roosting habitat) from the tree and leave the remaining trunk and limbs overnight. Fell the remaining trunk and affected limbs the following day. ○ If logistically feasible, fell affected trees or limbs gently to minimize the likelihood of crushing bats that may be roosting inside. The qualified bat biologist will inspect all potential roost habitat for bats once the trees are felled.		

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	- o Leave all fallen material on the ground at least 1 night prior to removal from the project site. - o If bats are detected at any point, work in that area will cease and the qualified biologist will be notified. Work will resume as directed by the qualified biologist. - o If any compromised bats are found, the qualified bat biologist may collect and deliver the bat(s) to a permitted bat rehabilitator, as needed. The qualified bat biologist should have any necessary Scientific Collecting or CESA permits from CDFW before handling bats.		
BIO-15	American Badger Survey and Avoidance. No more than 14 days prior to implementation of project related activities, a qualified biologist will conduct a focused survey to determine if American badger dens occur in or within 250 feet of the construction footprint, including construction access routes. If potential dens are identified, additional surveys (e.g., camera monitoring and/or tracking) will be conducted to determine if the potential dens are actively being used by badger. If an active den is identified within 250 feet of the construction footprint, including access routes, a no-disturbance buffer will be established prior to commencement of any project activities to avoid construction or access-related disturbances to natal dens and minimize disturbance of non-natal dens. A qualified biologist will determine the appropriate no-disturbance buffer. The buffer will be imposed until a qualified biologist determines the den is no longer occupied.	Before and during construction activities	The District and its construction contractor(s)
BIO-16	San Joaquin Kit Fox Avoidance and Minimization (HCP/NCCP Species Specific Minimization Measure). The District and its contractor(s) will implement the following measures consistent with those specified in the HCP/NCCP to avoid and minimize potential for adverse impacts on San Joaquin kit fox to result from project implementation: Prior to any ground disturbance related to covered activities, a USFWS/CDFW–approved biologist will conduct a preconstruction survey in areas identified in the planning surveys as supporting suitable breeding or denning habitat for San Joaquin kit fox. The surveys will establish the presence or absence of San Joaquin kit foxes and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey guidelines (USFWS 1999). Preconstruction surveys will be conducted within 30 days of ground disturbance. On the parcel where the activity is proposed, the biologist will survey the proposed disturbance footprint and a 250-foot radius from the perimeter of the proposed footprint to identify San Joaquin kit foxes and/or suitable dens. Adjacent parcels under different land ownership will not be surveyed. The status of all dens will be determined and mapped. Written results of preconstruction surveys will be submitted to USFWS within 5 working days after survey completion and before the start of ground disturbance. Concurrence is not required prior to initiation of covered activities.	Before and during construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	If San Joaquin kit foxes and/or suitable dens are identified in the survey area, the measures described below will be implemented. - If a San Joaquin kit fox den is discovered in the project footprint, the den will be monitored for 3 days by a USFWS/CDFW– approved biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used. - Unoccupied dens should be destroyed immediately to prevent subsequent use. - If a natal or pupping den is found, USFWS and CDFW will be notified immediately. The den will not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFW. - If kit fox activity is observed at the den during the initial monitoring period, the den will be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied it may be excavated under the direction of the biologist. Alternatively, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant (i.e., during the animal's normal foraging activities). - If dens are identified in the survey area outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will be demarcated. No covered activities will occur within the exclusion zones. Exclusion zone radii for potential dens will be at least 50 feet and will be demarcated with four to five flagged stakes. Exclusion zone radii for known dens will be at least 100 feet and will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the den by kit fox.		
CUL-1	Environmentally Sensitive Area. An Environmentally Sensitive Area (ESA) shall be established in areas where excavation in previously undisturbed soil would occur with potential to impact Tribal Cultural Resources. The ESA will exclude sediments that have accumulated in the wet pool, as delineated in the archaeological monitoring plan. The horizontal and vertical ESA shall be delineated on all project construction plans. A vertical ESA limit of 12 feet will be established, and no Project-related activities (e.g., excavation, trenching) shall take place below the vertical ESA limit. The ESA will also establish exclusion zones with a 100-ft buffer around resources within and adjacent to the Project footprint and be physically delineated with orange safety fencing. No Project-related activities (e.g., excavation, trenching, staging, equipment parking) shall take place within the exclusion zones of the ESA that is within the orange safety fencing.	Before and during construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
CUL-2	An archaeological monitoring plan shall be prepared prior to any ground disturbance. The plan shall outline the procedures for discoveries during construction; the chain of command and responsible parties; and special procedures should human remains be encountered. The AMP shall identify a safe and secure climate-controlled location for storage of cultural resources should storage of a potentially significant finding be recommended by Tribal representatives. Archaeological monitoring by a qualified archaeologist shall be conducted during all ground disturbing activities within the boundaries of the Environmentally Sensitive Area between current ground surface and 12 feet below current ground surface. A daily archaeological monitoring log shall be completed by the archaeological monitor and submitted weekly to the District for review. Should archaeological resources or human remains be encountered the procedures outlined in the monitoring plan shall be implemented. Archaeological and Native American Monitoring. Prior to ground disturbing activities within ESA limits, Tribal monitor(s) shall be retained. Tribal monitoring by a qualified Tribal monitor approved on this project pursuant to Assembly Bill 52 shall be conducted during all ground disturbing activities within the boundaries of the Environmentally Sensitive Area between ground surface and 12 feet below current ground surface. The District shall invite representatives from Wilton Rancheria and the Confederated Village of Lisjan Nation (the "Tribes") to monitor the active areas of the Project within the ESA, including any soil piles, trenches, or other disturbed areas. The Tribes shall be notified with accurate times and dates of all ground disturbing activities at least 48 hours prior to start of construction. Tribal monitor(s) will have the authority to halt and redirect work should any archaeological or tribal cultural resources be identified during monitoring. Monitoring may be reduced or halted at the discretion of the Tribal monitor, in consultation with the District, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, negative findings during the first 50 percent of the entire area of ground disturbance, etc. If monitoring is reduced to spot checking, spot checking shall occur when ground disturbing activities moves to a new location within the project site and when ground disturbance If no Tribal monitor is available to monitor on a given day, an agreement will be made to periodically inspect the active site of the Project, including any soil piles, trenches, or other disturbed areas within the timeframe that is consistent with the contractor's scheduled activities. The Tribes shall still be notified at least 48 hours prior to all ground disturbing activities not previously agreed upon. The Tribal monitor(s) shall complete daily monitoring logs that provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. During excavation or other substantial subsurface disturbance activities within the ESA, all construction personnel and on-site staff must follow procedures and direction of Tribal monitor if any cultural materials are observed.	Before and during construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
CUL-3	Inadvertent Discovery Procedures. Procedures for discovery include: If potential archaeological or Tribal cultural resources materials are encountered during construction, the Contractor shall cease all ground disturbing activities within a 100-foot radius of the find and the find must be evaluated for listing in the CRHR and NRHP. The Contractor shall immediately notify the District Resident Engineer or their designated representative to request a qualified archaeologist, a Confederated Villages of Lisjan Nation representative, and a Wilton Rancheria representative to assess the nature and significance of the find to determine if the find is a Tribal Cultural Resource and thus significant under CEQA and/or the Tribe. The archaeologist shall stake the area of discovery, placing stakes no more than 10 feet apart, forming a circle having a radius of no less than 100 feet from the point of discovery. If the finding(s) is not determined to be potentially significant, work may resume. If the finding(s) is determined to be potentially significant, the archaeologist in consultation with the Tribal representatives shall develop a mitigation plan (also known as data recovery plan) outlining management of the resource, analysis, reporting of the find, and curation or reburial of cultural items. The plan shall be implemented by the District in accordance with state guidelines and in consultation with the consulting Tribe. The mitigation plan shall include avoidance of the resource or, if avoidance of the resource is not feasible, the plan shall outline appropriate treatment of the resource in coordination with the consulting Tribe and, if applicable, a qualified archaeologist. Examples of appropriate mitigation for the Tribal cultural resources include, but are not limited to, protecting the cultural character and integrity of the resources, protecting traditional use of the resources, protecting the confidential. Any previously undiscovered resources found during construction within the Project Site shall be recorded on appropriate California Department of Parks and Recreation (DPR) 523 forms and shall be submitted to Contra Costa County Department of Conservation and Development, the Northwest Information Center (NWIC), and the California Office of Historic Preservation (OHP), as required.	Before and during construction activities	The District and its construction contractor(s)
CUL-4	Cultural Awareness Training. Contractor shall be notified of the possibility of encountering historic or archaeological materials during ground-disturbing activities. A standard inadvertent discovery clause will be included in every construction contract to inform Contractors of requirements during construction. Prior to the initiation of construction activities, a qualified archaeologist and Tribal monitor shall provide Cultural Awareness Training (CAT) to construction personnel and any other key personnel participating in work, including the resident engineer, Contractor supervisor, and District project management staff. CAT training will include: An overview of applicable laws, protocols for avoidance, and consequences of violating State laws and regulations.	Before and during construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	- Project mitigation measures, and procedures to be follow and who to contact if any potential to historical, archaeological, and Tribal resources are encountered over the course of the Project. - Underscore the requirement for confidentiality and culturally appropriate treatment of any kind of significance to Native Americans and behaviors consistent with Native American Tribal values. - Upon completion, individuals shall sign a form that acknowledges receipt and understanding of the training.		
CUL-5	Impact to Previously Undiscovered Human Remains. In the event of the accidental discovery or recognition of any human remains, all work within 100 feet of the remains should be redirected and the County Coroner notified immediately. There shall be no further excavation or disturbance within 100 feet of the remains until the Contra Costa County Coroner determines whether the remains are Native American and if an investigation of the cause of death is required. At the same time, an archaeologist shall be contacted to assess the situation. If the Coroner determines the remains to be Native American, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC shall identify a Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated funerary objects. Once NAHC identifies the MLD, the Tribe shall make every effort to recommend keeping ancestral remains and funerary objects in situ and protected. If removal of burials is necessary, Tribal representatives shall work with the qualified archaeologist to ensure that excavation and documentation are treated carefully, ethically, and respectfully. No photography or testing, shall be conducted on Native American human remains. All bone, if not identifiable as human or animal, shall be treated as human remains and the appropriate protocols followed. The archaeologist shall recover scientifically-valuable information, as appropriate and in accordance with the recommendations of the MLD and/or Tribal representative. The archaeologist shall prepare a report of all activities, including the recommendations for the treatment of the human remains and any associated funerary objects as provided by the MLD. The report shall be submitted to the District, the Northwest Information Center, and the Tribe. Tribal representatives shall rebury the Native American human remains and associated funerary objects with appropriate dignity either: 1) In accordance with the recommendations of the MLD if available; or 2) In the project vicinity at a location mitigated between the Tribal representative and the District, where the reburial would be protected in perpetuity and would not be subject to further subsurface disturbance. The discovery is to be documented on DPR523 forms and otherwise kept confidential and secure to prevent any further disturbance.	Before and during construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	A potential reburial location will be identified prior to commencing ground disturbing activities, as mediated between Tribal representatives and the District. All treatment recommendations made by the tribe and other cultural resources specialists will be documented in the confidential portion of the Project record. Work in the area(s) of the cultural find may only proceed after authorization from the lead agency in coordination with the Tribe.		
GHG-1	Best Management Practices for Construction-Related GHG Emissions. The District will implement the following BMPs to reduce GHG emissions to the extent feasible, and if equipment is available at the time of construction. ▪ Use zero-emission and hybrid-powered equipment where commercially available and operationally feasible. ▪ Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than 2 minutes (A 5-minute limit is required by the state airborne toxics control measure [Title 13, Sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site and develop an enforceable mechanism to monitor idling time to ensure compliance with this measure. ▪ Prohibit off-road diesel-powered equipment from being in the “on” position for more than 10 hours per day, when feasible. ▪ Use California Air Resources Board–approved renewable diesel fuel in off-road construction equipment and on-road trucks. ▪ Require all construction equipment is maintained and properly tuned in accordance with manufacturer’s specifications. Equipment should be checked by a certified mechanic and determined to be running in proper condition prior to operation. ▪ Use locally sourced or recycled materials for construction materials (goal of at least 20 percent based on costs for building materials and based on volume for roadway, parking lot, sidewalk and curb materials). Wood products used should be certified through a sustainable forestry program. ▪ Use low-carbon concrete, minimize the amount of concrete used and produce concrete on-site if it is more efficient and lower emitting than transporting ready-mix. ▪ Develop a plan to efficiently use water for adequate dust control since substantial amounts of energy can be consumed during the pumping of water.	During construction activities	The District and its construction contractor(s)
HAZ-1	Prepare and Implement BMPs for Wildland Fire Prevention. As part of the SWPPP for the CGP, or otherwise, the District will develop and implement BMPs for wildland fire prevention. As part of these BMPs, the District will require that the construction contractor clear dried vegetation or other materials that could serve as fuel for combustion from construction areas. To the extent feasible, the contractor will keep these areas clear of combustible materials to maintain a firebreak. Construction contractors will ensure that any construction equipment that normally	Before and during construction activities	The District and its construction contractor(s)

Mitigation Number	Mitigation Measure	Implementation Timing	Monitoring or Reporting Responsibility
	includes a spark arrester will be equipped with an arrester in good working order. This includes, but is not limited to, vehicles and heavy equipment. Additionally, the District will provide construction workers with education regarding wildfire risk and fire prevention measures during tailgate safety meetings. The Contra Costa Resource Conservation District will lead the controlled burn(s) effort required for the project and has specific BMPs and other measures in place to reduce the spread of fire during controlled burn events. In coordination with the Contra Costa Resource Conservation District, the District will ensure all BMPs for the project are consistent with specific procedures and measures required during controlled burns.		
HAZ-2	Prepare and Implement Fire Safety Plan. The coordination with the Contra Costa Resource Conservation District, the District will prepare and implement a Fire Safety Plan during project construction. The plan will describe the fire prevention process for construction activities, weather conditions during which fire risk is elevated and all equipment operations will cease, and other measures taken to reduce fire risk, equipment used to prevent fire and respond to a fire immediately, and responsibilities of the work crews when conducting construction activities.	Before and during construction activities	The District and its construction contractor(s)
TCR-1	Heavy Equipment. The movement of heavy equipment across the basin floor (between the reservoir wet pool and sediment drying area) will be limited to designated haul routes, subject to the following conditions to minimize impacts. The width of the haul routes shall not exceed 32 feet. Equipment with rubber tires will be required, or surfacing such as mats or aggregate base shall be placed on the haul routes within the basin to distribute weight and reduce impacts. The routes are shown schematically and may be adjusted in the field by the contractor.	Before and during construction activities	The District and its construction contractor(s)

Chapter 4. References

Contra Costa County. 2026. Clean Water Program. Monitoring/Assessment. Available online at: <https://cccleanwater.org/monitoring-assessment/>. Accessed July 2026.

Contra Costa County Flood Control and Water Conservation District, 2025. *Marsh Creek Reservoir Restoration and total Mercury Reduction Project (DWDW#5B07CR00264). Pre-Dredge Sediment Evaluation Report*. July 17, 2025.