
San Francisco Bay Regional Water Quality Control Board

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April 9, 2018

Mr. Ryan Heacock
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118
Email: RHeacock@valleywater.org

Subject: Comments on Notice of Preparation for Guadalupe Dam Seismic Retrofit Project, Santa Clara County (State Clearinghouse No. 2018032007)

Dear Mr. Heacock:

San Francisco Regional Water Quality Control Board (Water Board) staff appreciates the opportunity to provide comments on the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Guadalupe Dam Seismic Retrofit Project (Project) by the Santa Clara Valley Water District (District) pursuant to the California Environmental Quality Act (CEQA). The District posted the NOP for public review on March 5, 2018, and held a public scoping meeting on March 8. We consider the public meeting poster material together with the NOP as the complete NOP. In addition, to further our understanding of the background for the Project, we also reviewed the Planning Study Report (SCVWD, 2015¹) and the FAHCE Settlement Agreement (State Water Board, 2003²).

Guadalupe Dam (Dam) impounds the Guadalupe Reservoir on Guadalupe Creek in unincorporated Santa Clara County, about 9 miles south of downtown San Jose. The reservoir capacity is 3,415 acre-feet, and its drainage area is about 5.9 square miles, with ungauged flows entering through Guadalupe, Rincon, and Los Capitancillos creeks. The District maintains the reservoir primarily to release flow during the dry

¹ Santa Clara Valley Water District (SCVWD), 2015. Guadalupe Dam Seismic Retrofit Project Planning Study Report. Prepared by Geotechnical Water Resources Environmental and Ecological Services (GEI Consultants), October 2015, Project 132838-0. SCVWD: San Jose, CA.

² California State Water Resource Control Board (State Water Board), 2003. *Settlement Agreement Regarding Water Rights of the Santa Clara Valley Water District on Coyote, Guadalupe, and Stevens Creeks*. SB 320572 v1:007677.0001 01/06/2003. State Water Board: Sacramento, CA. (This document is referred to as the "FAHCE settlement agreement, where FAHCE is for Fisheries Aquatic Enhancement Collaborative Effort.)

season into Guadalupe Creek to recharge groundwater levels via in-stream percolation and re-diversion into downstream infiltration basins. The District also manages reservoir storage levels to provide capacity for incidental flood protection. However, since 2012, the Division of Safety of Dams has restricted reservoir operations to 66 percent of the reservoir's capacity due to seismic safety concerns.

The Project purpose is to restore normal water supply capacity and protect against the Probable Maximum Flood event, and it is intended to remove the reservoir operating restriction and satisfy District operational requirements. The Project has following elements:

- Reconstructing and thickening the Dam;
- Constructing a new outlet works system;
- Increasing the capacity of the spillway;
- Improving emergency access by realigning Hicks Road and constructing a new bridge from Hicks Road across the spillway to the Dam crest, and a new bridge over Guadalupe Creek below the Dam; and
- Creating borrow, disposal, and staging areas for Project construction.

The District anticipates the Project will take three years to construct.

The Project has the potential for actions that would require the Water Board's approval under the federal Clean Water Act (CWA), the California Water Code (Water Code), and the San Francisco Bay Basin Water Quality Control Plan (Basin Plan) for discharges of dredge and fill material. The Basin Plan includes the California Wetlands Conservation Policy, which requires no net loss and a long-term net gain in the extent, functions, and values of wetlands, including riparian wetlands. Accordingly, the Water Board is a Responsible Agency under CEQA.

Although the potential effects identified in the NOP were unclear, we recognize that the scoping meeting display boards included the following potential effects to be analyzed in the DEIR: (1) Temporary reservoir drawdown and potential drying of Guadalupe Creek during construction; (2) Riparian habitat and fish; (3) Wetlands; and (4) Special status wildlife and plants. However, the NOP and the scoping meeting display boards did not identify all of the potential impacts, including, but not limited to, the following:

- Temporary and permanent impacts of excavated and fill materials in jurisdictional waters and wetlands;
- Beneficial uses of jurisdictional waters;
- Steelhead trout habitat;
- Fisheries Aquatic Habitat Collaborative Effort (FAHCE) settlement agreement;
- Reservoir dewatering and creek bypass discharges;

- Legacy mercury contamination;
- Cumulative impacts; and
- Construction General Permit.

We offer the following comments to identify both significant impacts and the information needed to evaluate these impacts. Our intent is to assist the District in completing the Project DEIR, and facilitate the Water Board's permitting process for the Project.

Comments

1. Impacts to Federal and State Jurisdictional Wetlands and Other Waters. Both a CWA Section 401 water quality certification (401 Certification) and a CWA Section 404 Permit from the U.S. Army Corps of Engineers may be necessary if the Project impacts waters of the U.S. Additionally, the District may need to file a Report of Waste Discharge under the Water Code if the Project may result in a discharge of pollutants, including, but not limited to sediment, to waters of the State.

As part of the process to issue a 401 certification, we require a project proponent to conduct an alternatives analysis consistent with the U.S. Environmental Protection Agency's CWA Section 404(b)(1) Guidelines. Pursuant to these Guidelines, filling, dredging, excavating and discharging into a wetland or water of the state is prohibited unless the project meets the least environmentally damaging practicable alternative (LEDPA) standard as determined through the 404(b)(1) alternatives analysis. Although the LEDPA analysis is not required by CEQA, a project proponent may tailor the DEIR alternative analysis to fulfill both the CEQA and 404(b)(1) requirements to help expedite the Water Board's issuance of a 401 Certification and/or waste discharge requirements under Porter-Cologne. Accordingly, we recommend the District prepare and analyze alternatives in the DEIR that would meet the LEDPA standard to help expedite future Water Board actions, and avoid the potential need for a DEIR supplement or amendment. We remain available to assist in the development of alternatives and/or mitigation measures, and encourage the District to consult with us early in the DEIR drafting process to ensure a complete evaluation of alternatives and avoid delays in the permitting process.

The Guidelines require projects, first, to avoid impacts to waters where feasible. When it is not feasible to avoid impacts to water bodies, projects must minimize impacts to the maximum extent possible. Compensatory mitigation (through enhancement, restoration, and/or creation) for lost water body acreage and functions can only be considered after impacts have been minimized. To be acceptable, compensatory mitigation for unavoidable impacts must enhance, restore, and/or create sufficient aquatic habitat to compensate for the loss of water body acreage, functions and values pursuant to the California Wetland Conservation Policy (also known as the "no net loss" policy; Executive Order W-59-93).

Further, although the NOP states there would be 249,100 cubic yards of sediment excavated and reused onsite and other materials would be imported for the Project,

the potential temporary and permanent impacts of excavated and fill materials in jurisdictional waters are not addressed in the NOP. The DEIR must thoroughly address the types and quantities of dredged, excavated, and fill materials in the Project and the potential for the excavation and fill discharges to result in adverse impacts.

Cumulative and indirect impacts to wetlands must also be prevented. Indirect impacts include deposition of sediments; erosion of substratum; additional water (flooding); reduced water supply or flows; creating a condition of pollution; shading; and watershed degradation. We elaborate on these issues in the subsequent comments.

- 2. Potential Impacts to Beneficial Uses.** Beneficial uses are State water quality standards. As such, beneficial uses are potential effects that need to be evaluated in the DEIR. The Water Board regulates waters of the State to protect beneficial uses that support the health and success of various species, such as preservation of rare and endangered species, fish spawning, and cold water habitat (Basin Plan, Chapter 2 and Table 2.1).

The beneficial uses of waters in the Project are listed in the following table. Please note that this table only addresses the waters listed in the NOP. The DEIR must also address the potential for impacts in tributaries to these waters, including the Guadalupe River. To address impacts to tributaries, the DEIR should assume that the beneficial uses specified for any water body apply to all its tributaries (Basin Plan, Section 2.2.1).

Beneficial Uses of Project Waters

Beneficial Use ^[1]	Guadalupe Reservoir	Guadalupe Creek	Rincon Creek	Los Capitancillos Creek
Municipal and Domestic Supply (MUN)	✓			
Freshwater Replenishment (FRSH)		✓		✓
Groundwater Recharge (GWR)	✓	✓		✓
Cold Freshwater Habitat (COLD)	✓	✓		✓
Fish Migration (MIGR)		✓	✓	
Protection of Rare and Endangered Species (RARE)		✓	✓	
Fish Spawning (SPWN)	✓	✓	✓	
Warm Freshwater Habitat (WARM)	✓	✓	✓	✓
Wildlife Habitat (WILD)	✓	✓	✓	✓

Beneficial Uses of Project Waters

Beneficial Use ^[1]	Guadalupe Reservoir	Guadalupe Creek	Rincon Creek	Los Capitancillos Creek
Water Contact Recreation (REC-1)	✓	✓	✓	✓
Noncontact Water Recreation (REC-2)	✓	✓	✓	✓

[1] The beneficial uses are briefly described below. Additional details are included in the Basin Plan, Chapter 2:

- MUN – Uses of water for community, military, or individual water supply systems, including, but not limited to, drinking water supply
- FRSH – Uses of water for natural or artificial maintenance of surface water quantity or quality.
- GWR – Uses of water for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting saltwater intrusion into freshwater aquifers.
- COLD – Uses of water that support cold water ecosystems, including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates
- MIGR – Uses of water that support habitats necessary for migration, acclimatization between fresh water and salt water, and protection of aquatic organisms that are temporary inhabitants of waters within the region.
- RARE – Uses of waters that support habitats necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened, or endangered
- REC1 – Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.
- REC-2 – Uses of water for recreational activities involving proximity to water, but not normally involving contact with water where water ingestion is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
- SPWN – Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.
- WARM – Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
- WILD – Uses of waters that support wildlife habitats, including, but not limited to, the preservation and enhancement of vegetation and prey species used by wildlife, such as waterfowl.

3. Impacts to Steelhead Trout Habitat. As presented in the comment above, the DEIR must address potential impacts to beneficial uses, including RARE. Guadalupe Creek and Rincon Creek both have the RARE beneficial uses due to steelhead trout (*Oncorhynchus mykiss*) (“steelhead”), a federally-listed endangered species. However, the NOP and the scoping meeting display boards did not identify potential effects to steelhead from reservoir dewatering, the related potential for reduced flow, and temporary dry conditions in Guadalupe Creek. In addition, the DEIR must

address potential water quality effects from construction, such as turbidity and temperature. Accordingly, the DEIR should include a plan for protecting steelhead in the watershed for the duration of the Project (estimated to be three years of construction). This should include safe capture and relocation procedures to protect steelhead populations, or other measures determined necessary by the natural resource agencies.

Also, given that the Dam is a fish passage barrier for steelhead, we urge the District to conduct a fish passage analysis to evaluate feasibility of installing a volitional fish passage facility, trap/truck operation, or other means to provide fish passage through the Dam. The DEIR alternatives should be developed with the results of the fish passage analysis to maximize the potential for the Project to protect and enhance the RARE, MIGR, and SPWN beneficial uses by improving access for steelhead to upper Guadalupe Creek and Rincon Creek.

Further, we suggest that the District develop and implement a watershed-scale monitoring program that adequately captures population data for in-migrating adults, out-migrating juveniles, and spawning and rearing in the Guadalupe watershed under pre- and post-Project conditions. Monitoring should be consistent with the California Conservation Monitoring Program³ (to the extent its methods and procedures are applicable to the San Francisco Bay Area coastal waters and creeks), and/or comparable protocols subject to approval by the Water Board and other permitting agencies for the Project. This would allow for scientifically sound, long-term population monitoring with statistically significant results, to assist agencies in evaluating the effects of the Project, including the potential impacts of reservoir dewatering and creek diversions during the three-year construction project, which are addressed in more detail in Comment 5.

- 4. Reservoir Operations Related to FAHCE Settlement Agreement Requirements.** Guadalupe Creek is one of three creeks addressed in the FAHCE settlement agreement which requires the District to modify reservoir rule curves to improve habitat for steelhead and Chinook salmon (*Oncorhynchus tshawytscha*). The DEIR should address how the Project would be consistent with the FAHCE agreement. As such, it should elaborate on the outlet works design alternatives and how the District intends to manage the reservoir to meet the FAHCE criteria for flow and temperature in Guadalupe Creek downstream of the Dam. For example, would the design and function of the outlet works have multiple ports for managing the water temperature of releases to the creek? The DEIR should also describe water operations during the interim period between the DEIR publication and FAHCE implementation. This should include a water operations plan for protecting the Guadalupe Creek steelhead population during construction and over the life of the rebuilt dam. Given that the schedule for FAHCE implementation is uncertain, the life history and habitat needs for steelhead that can be addressed by the Project must be included and

³ Adams, Peter B., et al, 2011. California Coastal Salmonid Population Monitoring: Strategy, Design, and Methods. Fish Bulletin 180. California Natural Resources Agency and California Department of Fish and Wildlife. Sacramento.

analyzed in the DEIR.

In addition, the DEIR should address whether the rule curve identified in the FAHCE agreement, which was developed in the early 2000s, should be updated with respect to current, more-nuanced, computer modeling capabilities for hydrology, hydraulics, geomorphology, and biological resources in Guadalupe Creek. This comment replicates a similar comment for the FAHCE EIR NOP in our letter to District of June 30, 2017, in which we pointed out that a new modeling alternative developed recently by the FAHCE technical group—"Scenario 4"—may have the potential to achieve necessary flows for fish while reducing the volume of releases required to obtain those flows, thus also conserving water—a win-win scenario.

- 5. Reservoir Dewatering and Creek Bypass Discharges.** The NOP states that the reservoir will be completely drained, and flow from the three creeks that would normally fill the reservoir (upper Guadalupe Creek, Rincon Creek, and Los Capitancillos Creek) will be directed to Guadalupe Creek below the Dam through the reservoir bypass structure. The DEIR must address the potential impacts of reservoir dewatering and creek diversions, and propose mitigation measures that would avoid and minimize impacts in the affected waters.

A complete dewatering and diversion plan will be required as part of the application for a 401 Certification. The plan must include elements to contain, monitor, and treat the water, as appropriate, to prevent adverse water quality impacts and maintain flows both upstream and downstream of the dewatered reservoir. The dewatering and diversion plans will need to include diagrams of alignments and locations of piping, cofferdams, pumps, and flow dissipaters, which need to be sized correctly for the anticipated flows to be managed. In addition, the plans must include a discharge monitoring plan to determine whether the dewatering and diversion flows meet the Basin Plan receiving water quality objectives, particularly for turbidity, dissolved oxygen, temperature, and pH. In addition, the plans must include continuing the mercury TMDL reservoir monitoring program until the reservoir has been fully dewatered, and propose appropriate monitoring for total mercury and methylmercury associated with potential discharges during construction. We encourage the District to include these in the DEIR.

- 6. Legacy Mercury Contamination.** Numerous creeks and reservoirs in the Guadalupe River watershed, including the Guadalupe Reservoir and Guadalupe Creek, are impaired by mercury due to legacy mining activities. As a result, the Water Board developed a watershed-wide mercury management strategy under the Guadalupe River Watershed Total Maximum Daily Load (TMDL) implementation plan (Basin Plan, section 7.7.1). However, the NOP and scoping meeting boards did not address how the Project will comply with the TMDL, including (but not limited to) the following impacts from the Project:

- *Soil reuse.* The DEIR should include a soil monitoring plan to determine the appropriate beneficial reuse and disposal options for any soil excavated in the

Project site, consistent with the District's Stream Maintenance Program, Attachment G - *Sediment Characterization Plan* (Water Board Order No. R2-2014-0015).

- *Sediment oxidation in dewatered reservoir.* The DEIR must evaluate the potential for adverse water quality effects resulting from dewatering the reservoir. Dewatering the reservoir would alter the redox potential of the reservoir substrate and potentially lead to the conversion of sulfides to sulfate. In turn, the resulting increased sulfate supply could fuel higher rates of methylmercury production by sulfate-reducing bacteria after the reservoir becomes stratified and anoxic conditions are re-established under post-Project conditions.
- *Oxygenation equipment.* In addition, the DEIR must evaluate whether the existing oxygenation equipment, and operation of the equipment, should be modified to address any changes in the reservoir's physical structure and biogeochemical processes resulting from the Project.
- *Changes in food web.* Dewatering the reservoir will likely cause significant changes to the food web, and hence significant changes to bioaccumulation of methylmercury. Accordingly, the DEIR must evaluate how the changes resulting from the Project have affected and will affect changes in the food web and mercury bioaccumulation. Previous studies from the TMDL may be used to establish baseline conditions, and the DEIR must evaluate how those baseline conditions may change as a result of the Project. In addition, we are concerned that the Project will somewhat invalidate the Water District's recently completed work to address mercury TMDL special study question 1: How do the reservoirs and lakes in the Guadalupe River watershed differ from one another? (Basin Plan, Section 7.7.1). Therefore, we recommend the District to conduct a study to verify both the findings in the DEIR and the TMDL.
- *Non-native fish prevention.* The DEIR should include a plan to prevent introduction of non-native fish into the reservoir after the reservoir is re-filled. We recognize that non-native fish could be reintroduced into the reservoir by fish anglers, and by other means such as unwanted pet fish being released into the reservoir. Therefore, we suggest the DEIR to include alternatives for an intensive public education and outreach effort similar to the Presidio Trust's program for Mountain Lake (San Francisco, CA).
- *Dust in the dewatered reservoir.* The EIR must address the potential for mercury-laden sediment to be picked up from the dry reservoir bed by wind and pose a risk to workers, park users, nearby residents, and biota in the area.

If the evaluation of water quality effects associated with legacy mercury contamination indicates potentially significant effects, the DEIR must propose appropriate mitigation measures to reduce the potentially significant effects to less than significant. Monitoring of the mitigation measures should include methods to assess methylmercury production during the first stratification season, and characterize any anticipated spike in methylmercury production. This would entail

water and biota sampling at least as frequently as was conducted in 2016 and 2017 for the mercury TMDL monitoring to capture the rise, peak, and seasonal decline in methylmercury production and bioaccumulation. The details for the monitoring plan would need to be refined in close coordination with Water Board staff (Basin Plan, Section 7.7.1).

- 7. Cumulative Impacts.** The NOP and scoping meeting boards did not identify specific cumulative impacts. The Project DEIR's cumulative impact analysis must address capital projects being planned within the Guadalupe River watershed, which include, but are not limited to, the Upper Guadalupe River flood control project, seismic upgrade projects at Calero and Almaden Dams, and FAHCE implementation.
- 8. Construction General Permit.** Lastly, the District will need to obtain coverage under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activities (Order No. DWQ-2009-0009, as amended, and as may be reissued) (Permit). As part of Permit coverage, the District will be required to prepare and implement a SWPPP, and associated monitoring program, that appropriately describes the BMPs that will be used to avoid impacts to Guadalupe Creek. These considerations should be incorporated into project design and mitigation measures as early in the planning phase as possible.

We welcome the opportunity to provide additional comments on a draft Project DEIR when it is available for review. If you have any questions about our comments please contact Susan Glendening of my staff at susan.glendening@waterboards.ca.gov or (510) 622-2462.

Sincerely,

Keith H. Lichten, Chief
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