ADDENDUM NO. 3 TO THE SYPHON RESERVOIR IMPROVEMENT PROJECT FINAL ENVIRONMENTAL IMPACT REPORT

SCH #: 2019080009

Prepared for
Irvine Ranch Water District

October 2025

ESA

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CHAPTER 1
Introduction

1.1 Overview

1. Title: Syphon Reservoir Improvement Project Design Refinements (Addendum No. 3)

2. Lead Agency Name and Address: Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

3. Contact Person and Phone Number: Fiona Nye, Director of Water Resources, 949-453-5325

4. Location: Northeast of Portola Parkway between Bee Canyon Access Road and State Route 133 (SR-133), County of Orange, CA

5. Sponsor's Name and Address: Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

6. General Plan Designation(s): Open Space Preserve

7. Zoning: General Agriculture

8. Description:

See Section 2.6, *Syphon Reservoir Improvement Project Design Refinements* below.

9. Surrounding Land Uses and Setting:

The Syphon Reservoir Improvement Project is being implemented at the existing recycled water storage reservoir located within the Irvine Ranch Water District (IRWD) service area. The site is northeast of Portola Parkway between Bee Canyon Access Road and SR-133 in the County of Orange. The Crean Lutheran High School Athletic Complex is located adjacent to the southern boundary of the site. Additionally, there are nearby residential communities, including Stonegate Village, Stonegate East, Woodbury and Woodbury East.

10. Other public agencies whose approval is required:

The Syphon Reservoir Improvement Project Design Refinements requires approvals from the following agencies:

- See Table 2 in Section 2.6.5, *Proposed Approvals*, below.

1.2 Background and Purpose of the Addendum

IRWD prepared a Final Environmental Impact Report (FEIR) for the Syphon Reservoir Improvement Project (State Clearinghouse No. 2019080009), and a Notice of Determination (NOD) approving the project was filed in compliance with Sections 21108 and 21152 of the Public Resources Code on July 27, 2021. The Syphon Reservoir Improvement Project would increase the storage capacity of the Syphon Reservoir from 500 acre-feet to approximately 5,000 acre-feet to serve the community's seasonal and future recycled water needs. Increased use of recycled water will make more drinking water available and help withstand future water shortages.

The Syphon Reservoir Improvement Project FEIR evaluated the effects of construction and operation of the Syphon Reservoir Improvement Project and presented a comprehensive impact analysis. Since the FEIR was certified in 2021, IRWD has prepared 100% design plans[1], which involve refinements to the project that need to be assessed in comparison to what was assumed and analyzed in the Syphon Reservoir Improvement Project FEIR. This Addendum No. 3 to the original Syphon Reservoir Improvement Project FEIR assesses potential impacts associated with the 100% design plans pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15164.

1.3 Regulatory Background

Per CEQA Guidelines Section 15162, a subsequent Environmental Impact Report (EIR) must be prepared if:

- Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
  - The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
  - Significant effects previously examined will be substantially more severe than shown in the previous EIR;
  - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

[1] AECOM, 2025. Project Manual and Construction Plans for Syphon Reservoir Improvement Project (100% Submittal), June 2025.

- Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Section 15164(a) of the CEQA Guidelines provides that an addendum to a previously certified EIR is permissible if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred. As described in detail below, the design refinements would not result in any of the conditions listed in CEQA Guidelines Section 15162 requiring preparation of a Subsequent EIR. As a result, this Addendum No. 3 to the Syphon Reservoir Improvement Project FEIR has been prepared.

This Addendum No. 3 to the Syphon Reservoir Improvement Project FEIR relies on the significance criteria established in the CEQA Guidelines and the resource analysis methodology, described in the FEIR, to assess the potential impacts related to the project's design refinements. Each resource section presents a summary and a determination as to whether the project's design refinements would result in new significant impacts, or a substantial increase in the severity of previously identified significant impacts. Any changes to mitigation measures resulting from preparation of this Addendum are presented in ~~strikeout~~ or underline text.

In compliance with CEQA Guidelines Section 15150, this Addendum No. 3 to the Syphon Reservoir Improvement Project FEIR has incorporated by reference the Draft EIR (DEIR) and FEIR for the Syphon Reservoir Improvement Project, certified by IRWD in 2021, which include all technical studies, analyses, and technical reports that were prepared as part of the DEIR and FEIR.

CHAPTER 2
Description

2.1 Syphon Reservoir Improvement Project Description

The Syphon Reservoir Improvement Project would allow IRWD to increase the recycled water storage capacity at Syphon Reservoir, helping IRWD become more self-sufficient by reducing its dependence on costly and less reliable imported water during summer months and supporting the increased use of recycled water for public landscaping, agricultural, business and industrial uses in IRWD's service area. Increased use of recycled water for these non-drinking water purposes would make more water available to the region to meet other treated or untreated demands, allow the region to better withstand future water shortages, and improve water supply reliability and resiliency in southern California.

The Syphon Reservoir Improvement Project would replace the existing engineered dam with a new engineered dam, increasing the existing 59-foot dam height to 138 feet and increasing the elevation of the dam crest from the existing 388 feet above mean sea level (amsl) to approximately 468 feet amsl. The existing dam includes a spillway that has never been used during its 65-year history, including during IRWD's ownership and operation of Syphon Reservoir. A spillway would be included with the new dam to protect the reservoir from overtopping in accordance with the current safety and design requirements established by the Division of Safety of Dams (DSOD). The new engineered dam would result in an increase in the reservoir's maximum water surface elevation from the existing 376 feet amsl to approximately 456 feet amsl and increase the reservoir's approximate capacity from the existing 500 acre-feet to about 5,000 acre-feet. As part of the new design, the engineered embankment dam would include a seepage control drainage system and a circulation/aeration system for the reservoir. The existing strainer and disinfection facilities would be demolished, reconstructed and expanded at the toe of the new dam to provide filtration, chlorination and de-chlorination. Additional project features include new on-site access and maintenance roads and wetland and riparian mitigation areas.

Similar to existing operations, all recycled water flowing into and out of the Syphon Reservoir for storage would be controlled directly by IRWD. The delivery of recycled water to and from Syphon Reservoir would be accomplished by the addition of pumps within the off-site Eastwood Recycled Water Pump Station. The Eastwood pump station structure has been constructed to enhance IRWD's recycled water delivery systems. The pump station can accommodate the Syphon Reservoir Improvement Project with the installation of additional pump equipment. Installation of the equipment would be coordinated as a separate "equipping project" in parallel to the construction of the Syphon Reservoir Improvement Project. Existing off-site conveyance facilities would be used to deliver tertiary-treated recycled water from the Michelson Water Recycling Plant to the Eastwood Recycled Water Pump Station, and then to Syphon Reservoir via an existing 36-inch recycled water pipeline. The existing Highline Canal would be replaced with a concrete stormwater drainage channel and no longer used to deliver water from Rattlesnake Reservoir to Syphon Reservoir. Under normal operating conditions, all flow out of Syphon Reservoir

would be conveyed back to the Eastwood Recycled Water Pump Station through the same 36-inch recycled water pipeline, for connection to IRWD's recycled water distribution system (see **Figure 1**).

2.2 Syphon Reservoir Improvement Project Objectives

As included in the FEIR, the primary objective of the Syphon Reservoir Improvement Project is to allow for an increase in IRWD's seasonal recycled water storage capacity. In implementing the Syphon Reservoir Improvement Project, IRWD would:

- Improve local water supply reliability by reducing the need to purchase costly imported water from the Metropolitan Water District of Southern California (MWD) by storing additional recycled water during low demand periods for use when needed during high demand periods;
- Ensure the new engineered dam and reservoir meet or exceed the current safety and design requirements established by the California Department of Water Resources, Division of Safety of Dams (DSOD), which is the governing state agency associated with this project;
- Reduce diversions of sewage to Orange County Sanitation District;
- Maximize the use of recycled water produced by IRWD for the benefit of IRWD customers; and
- Reduce recycled water discharges to the ocean.

2.3 Syphon Reservoir Improvement Project Public Participation and Project Approval

On August 2, 2019, IRWD published the Notice of Preparation (NOP) of an EIR for a 45-day review period. On August 21, 2019, in accordance with CEQA Guidelines Section 15082, IRWD held a public scoping meeting to describe the proposed Syphon Reservoir Improvement Project, identify the environmental topics that would be addressed, and describe the CEQA process for preparation of the EIR. To notify the public of the Scoping Meeting, IRWD published the legal notification in the *Orange County Register* in five languages, mailed a notification to area residents, and posted information about the meeting on IRWD's website.

Once the DEIR was complete, a Notice of Completion (NOC) was submitted to the Office of Planning and Research (now referred to as the Office of Land Use and Climate Innovation) as required by CEQA Guidelines Section 15085, along with copies of the DEIR for distribution to public agencies via the State Clearinghouse (CEQA Guidelines Section 15087(f)). At the same time, a Notice of Availability (NOA) of the DEIR was posted with the Orange County Clerk (CEQA Guidelines Section 15087(d)). The NOA also was published in the *Orange County Register* (per CEQA Guidelines Section 15087(d)). The NOA and DEIR were available at the following IRWD project website address: http://www.syphonreservoir.com. Printed copies of the DEIR were available for public review at the Heritage Park Library and the IRWD office as permitted if/when the restrictions due to facility closures and the need for social distancing required in response to the COVID-19 pandemic in effect at the time were lifted by the appropriate governmental agencies.



SOURCE: ESA, 2025; Mapbox, 2025

Syphon Reservoir Improvement Project Design Refinements

Figure 1
Syphon Reservoir Improvement Project Overview

ESA

The DEIR was circulated for a 60-day public review period from March 19, 2021 to May 18, 2021. During this public review period, IRWD held one virtual public meeting via Zoom and telephonically, in accordance with State directives in effect at the time regarding public meetings held during the COVID-19 pandemic, to receive public comments on the environmental analysis in the DEIR.

During the public review period, public outreach and notification efforts were conducted to raise awareness about the availability and contents of the DEIR and to encourage public participation. Outreach efforts included the following:

- Information was included in an IRWD newsletter that was mailed or emailed to all 128,334 IRWD customer households;
- A Syphon Reservoir Improvement Project overview video, offered in English, Korean, and Chinese, was posted to YouTube and targeted to IRWD customers and surrounding residents (the videos received more than 41,000 views in a four-week timeframe);
- Individual postcard mailers were sent to more than 2,000 households;
- More than 100 email notifications were sent to elected officials and stakeholder organizations, including the offer for a briefing;
- Briefings with stakeholders;
- Coordination with the City of Irvine to notice the public meeting and comment period; and
- Social media and website notifications.

IRWD certified and approved the Final EIR and a NOD for the project was filed with the County Clerk in Orange County and State Clearinghouse on July 27, 2021. The Final EIR can be accessed at www.syphonreservoir.com.

2.4 Syphon Reservoir Improvement Project Off-site Mitigation (Addendum No. 1)

The Syphon Reservoir Improvement Project FEIR determined that construction of the expanded reservoir would result in impacts to woody riparian and freshwater marsh habitats and stipulated that both on-site riparian/wetland habitat creation and off-site habitat mitigation would be provided to assure that no net loss of such habitats would occur and also to provide appropriate compensation for temporary loss of habitat value. IRWD prepared Addendum No. 1 to the Syphon Reservoir Improvement Project FEIR after extensive consultation with the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) led to the selection of a 33.4-acre IRWD property in the San Joaquin Marsh to be utilized for the off-site riparian and wetland habitat mitigation component. Addendum No. 1 evaluated the potential effects associated with the proposed Syphon Reservoir Improvement Project Off-site Mitigation and verified that no new significant environmental effects or a substantial increase in the severity of previously identified significant effects would occur. Addendum No. 1 was approved by IRWD's Board of Directors on August 26, 2024.

2.5 Syphon Reservoir Improvement Project Regulatory Update (Addendum No. 2)

The Syphon Reservoir Improvement Project FEIR identified that expansion of the Syphon Reservoir would permanently displace or temporarily remove upland habitat, including coastal sage scrub (CSS), around the existing reservoir. At the time the Syphon Reservoir Improvement Project FEIR was certified, Crotch's bumble bee (CBB), which may have utilized the CSS and upland habitat at the Syphon Reservoir Improvement Project site, was not a candidate for listing under the California Endangered Species Act (CESA). In 2022, after the Syphon Reservoir Improvement Project FEIR was certified, CBB became a candidate for State listing under CESA. Addendum No. 2 was prepared to supplement the original Syphon Reservoir Improvement Project FEIR pursuant to CEQA Guidelines Section 15164 to assess potential impacts associated with the change in status of CBB to candidate for State listing. The document verified that no new significant environmental effects or substantial increase in the severity of previously identified significant effects were found. Addendum No. 2 was approved by IRWD's Board of Directors on May 12, 2025.

2.6 Syphon Reservoir Improvement Project Design Refinements

2.6.1 Description

The 2025 100% design plans involve refinements and nuances to the project in comparison to the design that was analyzed in the Syphon Reservoir Improvement Project FEIR. **Figure 2** shows the 100% design plan associated with the Syphon Reservoir Improvements Project. The changes in design are listed and explained in **Table 1** below.

2.6.2 Construction

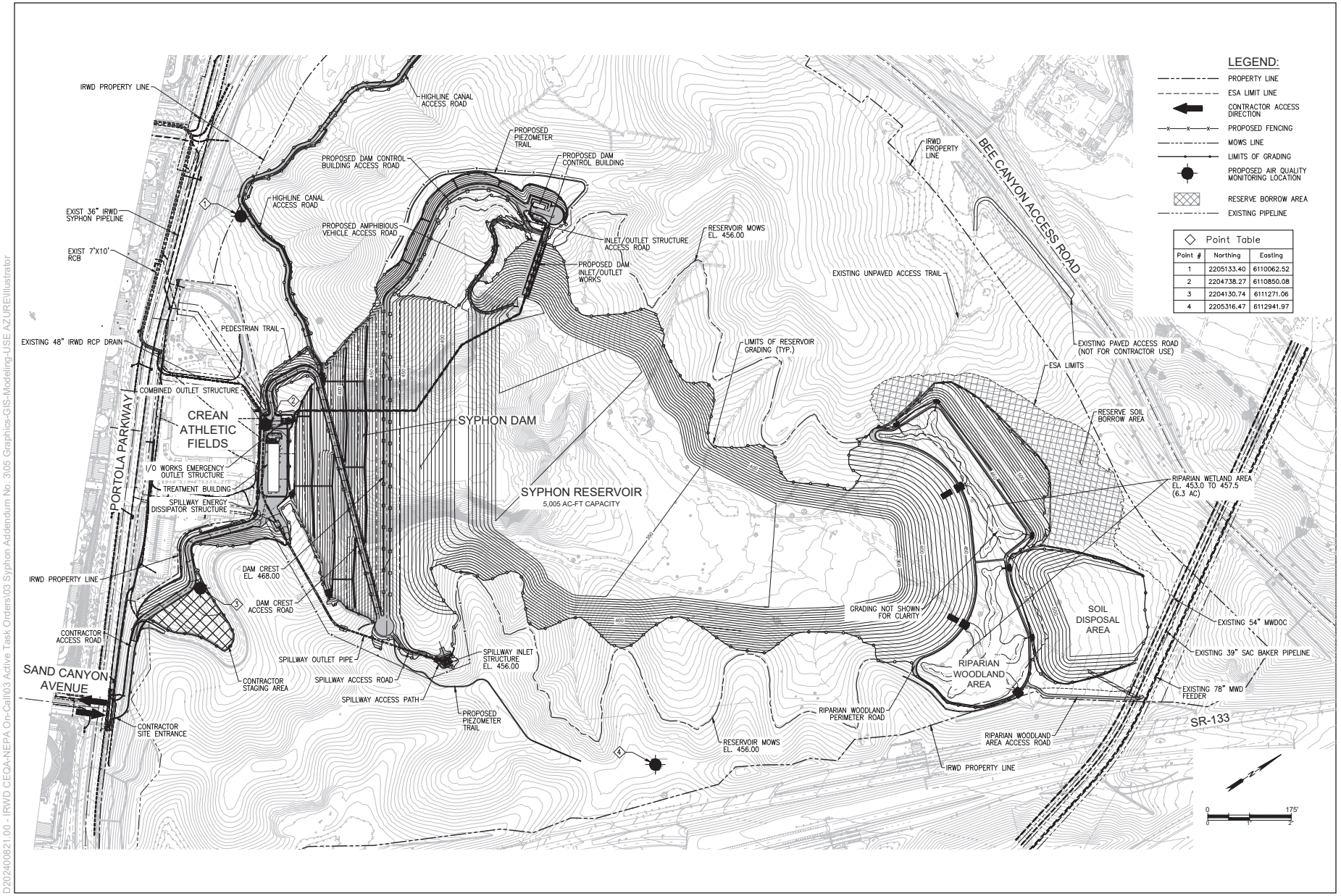
Construction characteristics associated with the 100% design modifications are shown in Table 1. Where indicated, construction characteristics are the same as described in the Syphon Reservoir Improvement Project FEIR.

Construction of the project is estimated to require a total of 60 months (5 years) and is anticipated to begin in 2026, which is 19 months longer than the Syphon Reservoir Improvement Project FEIR schedule estimation of 41 months. IRWD began preconstruction activities associated with the Portola Parkway intersection improvements in 2023. Construction activities may occur concurrently.

The number of workers per phase is not increased from the assumptions in the Syphon Reservoir Improvement Project FEIR. The number of daily trips is not increased from the assumptions in the Syphon Reservoir Improvement Project FEIR.

2.6.3 Operation and Maintenance

Operation and maintenance-related activities associated with the 100% design modifications are shown in Table 1. Where indicated, operational characteristics are the same as described in the Syphon Reservoir Improvement Project FEIR.



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SOURCE: AECOM

Syphon Reservoir Improvement Project Design Refinements

Figure 2
Syphon Reservoir Improvement Project 100% Design Plans

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TABLE 1
PROJECT CHANGES SINCE SYPHON RESERVOIR IMPROVEMENT PROJECT FEIR

Project Feature	2021 FEIR	2025 100% Design Changes	Justification	Construction Characteristics	Operational Characteristics
Dam replacement (height and freeboard)	• Dam height: 136 feet high • Dam elevation: 466 amsl • Dam crest: 20 feet wide • Freeboard: 10 feet	• Dam height: 138 feet high • Dam elevation: 468 amsl • Dam crest: 30 feet wide • Freeboard: 12 feet	Additional dam height provides adequate freeboard for the dam.	No change from 2021 FEIR.	No change from 2021 FEIR.
Dam replacement (materials)	100,000 cubic yards of fill imported to project site.	200,000 cubic yards of fill imported to project site.	Final design criteria yielded a wider filter drain system to enhance seismic performance which resulted in a greater volume of imported high-quality filter material.	Import will occur within the 66 daily haul trips originally anticipated. Similar construction methods as assumed in 2021 FEIR.	No change from 2021 FEIR.
Seepage Control	Chimney drain and gently sloping blanket drain.	New grout curtain will be added to reduce the potential for seepage around the dam. The grout curtain seepage barrier will extend approximately 150 feet into the formation.	Seal potential seepage pathways beyond the dam footprint.	Grout injection holes would require approximately 100 yards of grout material import. Similar construction methods as assumed in 2021 FEIR.	No change from 2021 FEIR.
Piezometers and piezometer trails	Item not evaluated in 2021 FEIR.	Eight (8) piezometer locations installed at depths of approximately 100 feet below ground surface. A piezometer trail to provide access to piezometers. Two segments of trail exist: 1,218 feet (northern) and 1,053 feet (southern).	Needed to monitor seepage and potential water levels around the perimeter of the reservoir.	Installation of piezometer borings would include site preparation, mobilization of equipment to the boring site, drilling, and finishing with piezometers. The piezometers would be constructed by installation of a well screen (slotted PVC pipe) at the bottom of the excavated borehole, which would be surrounded by a sand filter. A solid PVC pipe would be installed in the remaining portion of the borehole which would be filled in with bentonite grout.	The Piezometer trail will need to be periodically cleared of vegetation to provide access to piezometers for maintenance and monitoring. Trail clearing must be conducted outside of avian nesting season (see section 2.6.4 below).

Project Feature	2021 FEIR	2025 100% Design Changes	Justification	Construction Characteristics	Operational Characteristics
Chain-link fence	Item not evaluated in 2021 FEIR.	New chain-link fence to be installed along two segments of piezometer trail (see Figure 2). Northern segment is 1,960 feet and southern segment is 1,528 feet.	Needed to ensure site security and prohibit access to interior of property.	Construction includes digging post holes, setting the posts in concrete, and installing fence. Equipment typically includes a post hole digger or auger, concrete mixer, and a winch-tool for stretching the fence taut between the posts.	Chain-link fence will require periodic repairs that may occur from vandalism or overgrowth of vegetation.
Dam control building	Item not evaluated in 2021 FEIR.	New 15-foot tall dam control building near inlet/outlet works (see Figure 2) that will house air compressors for pneumatically operated valves, lake aerations system, and other dam related equipment.	Needed to house new compressors and other control infrastructure.	Similar to other aboveground structures included in 2021 FEIR.	Similar to other aboveground structures included in 2021 FEIR. Lighting over doors will remain off until needed; noise will be controlled within building.
Four (4) air quality monitoring stations	Item not evaluated in 2021 FEIR.	Four (4) new air quality monitoring stations.	The Fugitive Dust Control Plan, which was prepared in accordance with SCAQMD Rule 403 Implementation Handbook, includes monitoring stations to understand the effectiveness of dust control measures.	Air quality monitoring stations would be constructed with weatherproof enclosures housing the measurement instruments. Construction equipment includes concrete mixers, drills, and hand tools. Power may be supplied via electrical connections, battery, or solar panels.	Maintenance includes regular calibration, filter changes, cleaning of air intakes, and software updates to ensure accurate and reliable data.
Construct new SCE service and lighting	Included in the 2021 FEIR but electrical connection did not extend up to dam control building since it was not envisioned at the time	New SCE infrastructure to power dam control building to be installed below ground surface within access road right-of-way.	Needed to provide power to dam control building.	Similar to SCE infrastructure and lighting included in 2021 FEIR.	Similar to SCE infrastructure and lighting included in 2021 FEIR.

Project Feature	2021 FEIR	2025 100% Design Changes	Justification	Construction Characteristics	Operational Characteristics
Fuel reduction/ modification provisions	Fuel reduction not evaluated in 2021 FEIR.	Fuel reduction zones to be to be established around new dam control building.	Needed where natural brush vegetation would be thinned to reduce the fuel load near the building location.	Initial brush management would involve weed whackers and would occur outside of avian nesting season (see section 2.6.4 below).	Brush management would involve annual inspections and may require brush thinning every three to five years. Vegetation thinning must be conducted outside of avian nesting season (see section 2.6.4 below).
Spillway	2021 FEIR included a concrete channel spillway cut into the left abutment of the dam. The conceptual design included a rip-rap grouted channel below the chute and a below-grade retention basin designed to dissipate the energy of the water. A 48-inch discharge pipe was proposed to route flows to the existing storm drain box culvert located in Portola Parkway.	The spillway has been placed underground into a 60-inch pipeline instead of an aboveground channel. An energy dissipater would be required. Water would exit the spillway pipeline to the existing storm drain box culvert located in Portola Parkway as originally envisioned.	The spillway would only be used in the event of an emergency.	Spillway pipeline would be installed via jack and bore versus open cut construction Approximately 760 cubic yards of concrete would be needed versus 164 cubic yards previously analyzed in 2021 FEIR.	Spillway pipeline would involve less operational and maintenance activity than what was analyzed in 2021 FEIR.
Inlet/outlet pipeline	2021 FEIR included 36-inch inlet/outlet pipeline.	A larger 42-inch inlet/outlet pipeline would be required.	Needed to improve hydraulic conditions and to meet required reservoir drain times.	No change from 2021 FEIR.	No change from 2021 FEIR.
Access roads	2021 FEIR included access road around the left abutment of the dam. 2021 FEIR included one-way access road between Portola Parkway and reservoir. 2021 FEIR identified access road route up to dam control building on ridge northwest of dam without a grading plan.	Access road has been rerouted to go across the dam face (see Figure 2). Access road width modifications to include two-way traffic between Portola Parkway and reservoir. Access road to the dam control building at the top of the ridge northwest – 2025 design includes cut and fill grading.	Revised alignment allows access to both the treatment plant facility and shallower slopes to the top of the dam. Increase in roadway width allows for two-way traffic and no need for a traffic flagger, which improves site access safety.	No change from 2021 FEIR. Cut and fill grading for dam control building access road impacts a wider area than anticipated in the FEIR.	No change from 2021 FEIR.

Project Feature	2021 FEIR	2025 100% Design Changes	Justification	Construction Characteristics	Operational Characteristics
New temporary groundwater treatment system	The 2021 FEIR identified that dewatered groundwater would be discharged to the existing Portola Parkway storm drain under a permit from the Regional Water Quality Control Board (RWQCB).	Groundwater testing indicates additional treatment is needed before discharge of dewatered groundwater to storm drain. A temporary skid-mounted treatment system would be constructed. Any groundwater not able to be used onsite (dust control, etc.) or discharged to sewer, would be treated and discharged to the storm drain. Any backwash or concentrate not able to be reused on site (dust control, etc.) would be routed to the sewer for treatment at IRWD's Michelson Water Recycling Plant.	Needed to comply with RWQCB requirements.	A temporary skid mounted treatment system would be constructed onsite and would be removed upon completion of construction.	N/A
Walking trail	The 2021 FEIR included a walking trail along existing access roads and trails at the project site. The walking trail was located in the south and west portions of the project site, beginning at the new permanent access road at Portola Parkway and Sand Canyon Avenue and traveling along that route, across the dam crest, and following the alignment of the existing Highline Canal.	IRWD has removed the walking trail from the project.	Walking trail eliminated from project purpose and design.	N/A	N/A

2.6.4 Project Commitments

Any vegetation clearance or operation/maintenance activities within the Central and Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) Reserve will occur outside of nesting season (February 15 through September 15) and adhere to relevant requirements for activities within the Reserve. If activity must occur within nesting season, pre-activity surveys and/or monitoring would be required, with reports to wildlife agencies.

2.6.5 Proposed Approvals

Table 2 presents a preliminary list of the agencies and entities in addition to IRWD that would use this Addendum No. 3 in their consideration of specific permits and other discretionary approvals.

TABLE 2
REGULATORY PERMITS AND AUTHORIZATIONS

Agency	Type of Approval	Needed for
CDFW	Lake and Streambed Alteration Agreement	Presenting Syphon Reservoir Improvement Project refinements to CDFW
	Incidental Take Permit under Section 2081 of the California Fish and Game Code	Impacts to Crotch's bumble bee
USFWS and CDFW	NCCP/HCP	Presenting formal request to USFWS to confirm that mitigation proposed is adequate to comply with NCCP/HCP Request for concurrence from CDFW

CHAPTER 3
Evaluation of Environmental Impacts

3.1 Aesthetics

Issues (and Supporting Information Sources):		*Yes*	*No*
I.	**AESTHETICS —** Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a)	Have a substantial adverse effect on a scenic vista?	☐	☒
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☒
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☒
d)	Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Have a substantial adverse effect on a scenic vista?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would require the use of temporary construction equipment and would not affect the scale or quality of locally designated scenic vistas/viewscapes, including Loma Ridge, Santa Ana Mountains, and the San Joaquin Hills. The Syphon Reservoir Improvement Project FEIR concluded that scenic vistas and viewscapes in the project vicinity would not be substantially degraded during construction activities, and impacts would be less than significant. To assess operational impacts, visual simulations were prepared to document the "before and after" visual conditions that could be experienced by implementation of the project in the Syphon Reservoir Improvement Project FEIR. To create the visual simulations, photographs were taken from four proposed viewpoint locations: Viewpoint A, looking northeast to the project site from public right-of-way Portola Parkway and the outer limits of the Stonegate residential community; Viewpoint B, looking east to the project site from Stonegate Park; Viewpoint C, looking southwest to the project site from public right-of-way SR-133; and Viewpoint D, looking northeast to the hills from the intersection of public right-of-way Portola Parkway and Sand Canyon Avenue. The visual simulation from Viewpoint C shows that the proposed maximum water surface elevation in the expanded reservoir

and the water surface elevation would be significantly higher than under existing conditions. These visual simulations demonstrated that project infrastructure installation would introduce permanent features into a native landscape that is identified by the City of Irvine as a "major view", resulting in implementation of Mitigation Measure AES-1, which would require design of the aboveground project structures to have color palettes that blend in with the surrounding character of the project site, reducing the impact to a less than significant level. Additionally, the Syphon Reservoir Improvement Project FEIR identified that the enlarged dam would extend higher than the natural ridgelines and could constitute a permanent impact to the viewscape of prominent ridgelines of Loma Ridge and the Santa Ana Mountains. The Syphon Reservoir Improvement Project FEIR included revegetation of the dam face as a project design feature, allowing for the enlarged dam to blend into the surrounding hillsides, which reduced the impact to a less than significant level.

The 100% design plans would involve refinements to the project design and implementation methods. Construction methods would be similar to conditions analyzed in the Syphon Reservoir Improvement Project FEIR and would not result in changed circumstances that would materially affect scenic vistas. The particular refinements listed in Table 1 that may result in potential impacts to aesthetics include the addition of an aboveground 15-foot tall dam control building near the inlet/outlet works behind the dam (see Figure 2) and modifications to the dam height of two feet. Based on the previously prepared visual simulation from Viewpoint C demonstrating views from SR-133, the new aboveground dam control building could be visible from public vantagepoints, particularly when the reservoir level is at its lowest levels and the hillside surrounding the building are exposed. Background views of the Santiago Hills, which is a scenic view in the project area, could be affected, resulting in a potentially significant impact. FEIR Mitigation Measure AES-1 would require design of the aboveground dam control building to have color palettes that blend in with the project site. With implementation of this mitigation measure previously required in the Syphon Reservoir Improvement Project FEIR, impacts to scenic vistas would be reduced to a less than significant level. Although the increase in dam height would elevate the reservoir level by two feet, the increase would not significantly alter the views of the "dominant ridgelines" of the Loma Ridge or Santa Ana Mountains, which are scenic viewscapes/vistas located east of the dam (as demonstrated by simulations of Viewpoints A and B downstream of the dam). The proposed project includes revegetation of the dam face as a project design feature, which would allow the enlarged dam to blend into the surrounding hillsides. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measure is required to be implemented under this Addendum No. 3.

> **AES-1**: Aboveground buildings/structures/retaining walls shall be designed to have earth-tone color palettes that blend in with the surrounding landscape and vegetation.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project was not located in the vicinity of a state designated or eligible scenic highway, and therefore no impacts would occur.

The 100% design plans would involve refinements to the project design and implementation methods. However, no changes to the visual landscape would occur that could impact scenic resources within a scenic highway, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The Syphon Reservoir Improvement Project FEIR identified that the project site and surrounding area have moderate to high visual quality but are not considered highly visually sensitive when affected viewers and viewer exposure conditions are taken into account. The low contrasting visual elements of construction (i.e., equipment) would be temporary and would not permanently affect the existing visual character and quality of the surrounding area. To ensure that all permanent aboveground project structures would not impact the visual character or quality of the project site or surrounding area, the Syphon Reservoir Improvement Project FEIR required Mitigation Measure AES-1 to design the aboveground project structures to have color palettes that blend in with the surrounding character of the project site, resulting in a less than significant impact with implementation of mitigation.

The 100% design plans would involve refinements to the project design and implementation methods. Construction methods would be similar to conditions analyzed in the Syphon Reservoir Improvement Project FEIR and would not result in changed circumstances that would materially affect visual resources. The particular refinements listed in Table 1 that may result in potential impacts to visual character or quality include the addition of an aboveground 15-foot tall dam control building near the inlet/outlet works behind the dam (see Figure 2) and modifications to the dam height of two feet. Based on the previously prepared visual simulation from Viewpoint C demonstrating views from SR-133, the new aboveground dam control building could be visible from public vantagepoints, particularly when the reservoir level is at its lowest levels and the hillside surrounding the building are exposed. Background views of the Santiago Hills, which contribute to scenic resources in the project area, could be affected, resulting in a potentially significant impact. FEIR Mitigation Measure AES-1 would require design of the aboveground dam control building to have color palettes that blend in with the surrounding character of the project site. With implementation of this mitigation measure previously required in the Syphon Reservoir Improvement Project FEIR, impacts to visual character would be reduced to a less than significant level. Although the increase in dam height would elevate the reservoir level by two feet, the increase would not significantly alter the visual character of the surrounding Loma Ridge and Santa Ana Mountains, which contribute to the visual character in the area (as demonstrated by simulations of

Viewpoints A and B). The proposed project includes revegetation of the dam face as a project design feature, which would allow the enlarged dam to blend into the surrounding hillsides. The modified dam would not provide significant contrast nor alter color of the surrounding landscape from this location. Thus, the increase in dam height and resulting increase in the reservoir level by two feet would not alter the existing visual character or quality of public views of the site and its surroundings. As a result, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measure is required to be implemented under this Addendum No. 3.

Implement **Mitigation Measure AES-1**.

d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?

The Syphon Reservoir Improvement Project FEIR required nighttime lighting for the treatment facilities and new access road that could affect nighttime views. As a result, Mitigation Measure AES-2 was required for new permanent exterior lighting to be shielded or directed downward to minimize light cast on neighborhood residences directly adjacent to the project site. Additionally, the Syphon Reservoir Improvement Project FEIR specified that when reservoir levels are at their peak in the winter and spring months, the reservoir could create new sources of glare from an increased water surface area. However, this potential increase would be marginal, not in effect in the summer months when daytime hours are at their highest, and only noticeable to motorists travelling on SR-133 for brief periods of time (several seconds). As a result, impacts to nighttime and daytime glare would be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. Construction methods would be similar to conditions analyzed in the Syphon Reservoir Improvement Project FEIR and would not result in changed circumstances that would materially affect nighttime lighting. As summarized in Table 1, new exterior lighting over doors and noise controls would be constructed for the dam control building. Similar to the other aboveground structures included in the Syphon Reservoir Improvement Project FEIR, the operational lighting could affect nighttime views and could be potentially significant. However, with implementation of Syphon Reservoir Improvement Project FEIR Mitigation Measure AES-2, which would require all new permanent exterior lighting to be shielded or directed downward to minimize light cast on neighborhood residences directly adjacent to the project site, impacts would be reduced to a less than significant level. Additionally, the lighting will be used intermittently and will remain off until needed. While new SCE infrastructure would be required to extend electrical service to the dam control building, it would be installed underground within roadways and would not be visible once operational. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measure is required to be implemented under this Addendum No. 3.

> **AES-2**: All new permanent exterior lighting associated with the proposed project shall be shielded and directed downward to avoid light spill onto neighboring parcels and visibility from surrounding public vantage points.

Summary of Potential Effects on Aesthetics

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects with respect to aesthetics. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162.).

3.2 Agriculture and Forestry Resources

Issues (and Supporting Information Sources):		*Yes*	*No*
II.	**AGRICULTURE AND FORESTRY RESOURCES —** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☒
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☒
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☒
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project site was classified by the California Department of Conservation Farmland Map for Orange County as "Other Land," which includes low density rural developments, brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry or aquatic facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. The Syphon Reservoir Improvement Project FEIR indicated there is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance located within the project vicinity; therefore, there would be no conversion of farmland, and no impact would occur.

The 100% design plans would involve refinements to the project design and implementation methods. However, the refinements would not alter the extent of the existing Project site or its agricultural designations. No impacts to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would occur, and no mitigation would be required. Therefore, the refinements as part of the 100% design

plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project site does not include land enrolled in a Williamson Act contract. However, the Syphon Reservoir Improvement Project site is zoned as General Agriculture by the County of Orange. Pursuant to Section 7-9-30.1 of the Orange County Zoning Code, the General Agricultural District is intended to "provide for agriculture, outdoor recreational uses, and those low intensity uses which have a predominantly open space character," such as the Syphon Reservoir. The Syphon Reservoir Improvement Project FEIR identified that the site would not result in conflicts with the General Agriculture zoning designation because the Syphon Reservoir Improvement Project proposed similar uses; therefore, no impact would occur.

The 100% design plans would involve refinements to the project design and implementation methods. However, the refinements would not alter the extent of the existing Project site or its agricultural designations. No impacts to zoning for agricultural use or a Williamson Act contract would occur, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project site is currently zoned as General Agriculture and the Syphon Reservoir Improvement Project would not affect lands that are zoned as forest land or timberland. Additionally, the Syphon Reservoir Improvement Project does not involve any changes to the current General Plan land use or zoning designations for forest land or timberland. Therefore, there would be no conversion of forest land, timberland, or cause rezoning of existing land uses. and no impact would occur.

The 100% design plans would involve refinements to the project design and implementation methods. However, the refinements would not alter the extent of the existing Project site or its zoning designations. No impacts to zoning would occur for forest land or timberland, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project site and surrounding areas contain no forest land. Therefore, implementation of the Syphon Reservoir Improvement Project would result in no impacts related to the loss or conversion of forest land to non-forest use.

The 100% design plans would involve refinements to the project design and implementation methods. However, the refinements would not alter the extent of the existing Project site. The Project site and surrounding areas contain no forest land. No impacts related to the loss or conversion of forest land to non-forest use would occur, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would not convert Farmland to non-agricultural use or forest land to non-forest use within the Project site and surrounding areas. Therefore, implementation of the Syphon Reservoir Improvement Project would result in no impacts related to the conversion of farmland to non-agricultural use or forest land to non-forest use.

The 100% design plans would involve refinements to the project design and implementation methods. However, the refinements would not alter the extent of the existing Project site or its agricultural designations. No farmland would be converted to non-agricultural use or forest land to non-forest use, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Agricultural and Forestry Resources

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to agricultural and forestry resources. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162.).

3.3 Air Quality

Issues (and Supporting Information Sources):		*Yes*	*No*
III.	**AIR QUALITY —** Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒
b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☒
c)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☒
d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Forecast assumptions by the Southern California Association of Governments (SCAG) form the basis of the land use and transportation control portions of the South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP). Projects that are consistent with the regional population, housing, and employment forecasts identified by SCAG and which are generally consistent with land use designations in general plans from pertinent municipalities would not conflict with the AQMP growth projections. The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would result in an increase in short-term employment compared to existing conditions from construction. However, construction jobs would be temporary and as such would not conflict with the long-term employment projections upon which the AQMP is based. Operation of the Syphon Reservoir Improvement Project would neither result in a change in land use nor result in population, housing, or employment growth for the region.

The AQMP also includes control strategies applicable to short-term emissions from construction activities. The Syphon Reservoir Improvement Project FEIR determined that the Syphon Reservoir Improvement Project would be required to comply with the California Air Resources Board (CARB) Air Toxic Control Measure (ATCM) that limits heavy duty diesel motor vehicle idling to no more than five minutes at any given location with certain limited exceptions defined in the regulation for equipment in which idling is integral to the function of the equipment or activity (such as concrete trucks and concrete pouring). In addition, contractors would be required to comply with the CARB In-Use Off-Road Diesel Vehicle Regulation to use lower emitting equipment in accordance with the phased-in compliance schedule for equipment fleet operators. The Syphon Reservoir Improvement Project would also be required to comply with SCAQMD regulations for controlling fugitive dust pursuant to SCAQMD Rule 403. Compliance with

these requirements would be consistent with and would not conflict with AQMP control strategies intended to reduce emissions from construction equipment and activities.

Nonetheless, as discussed in Impact 3.2-2 of the Syphon Reservoir Improvement Project FEIR, construction of the Syphon Reservoir Improvement Project was found to exceed the significance threshold for nitrogen oxides (NO_X). Therefore, impacts related to consistency with air quality plans during construction of the Syphon Reservoir Improvement Project were found to be potentially significant. Construction-related daily emissions would be reduced to below the SCAQMD threshold of significance for NO_X with the implementation of Mitigation Measure AIR-1. Thus, with implementation of Mitigation Measure AIR-1, the Syphon Reservoir Improvement Project would not conflict with the AQMP, and impacts were reduced to a less than significant level.

The revised project included in the 100% design plans would not increase the maximum daily air pollutant emissions evaluated in the Syphon Reservoir Improvement Project FEIR since maximum daily construction activities would not change. However, annual emissions could increase during certain construction years as the total amount of soil import would increase from approximately 100,000 cubic yards as analyzed in the FEIR to approximately 200,000 cubic yards and as the total duration of construction would increase from approximately 41 months as analyzed in the FEIR to approximately 60 months. The refinements included as part of the 100% design plans would be required to comply with the same emission control strategies as identified in the Syphon Reservoir Improvement Project FEIR, including the CARB ATCM that limits heavy duty diesel motor vehicle idling to no more than five minutes at any given location with certain limited exceptions defined in the regulation and the CARB In-Use Off-Road Diesel Vehicle Regulation to use lower emitting equipment in accordance with the phased-in compliance schedule for equipment fleet operators. The revised project included in the 100% design plans are also required to comply with SCAQMD regulations for controlling fugitive dust pursuant to SCAQMD Rule 403. Additionally, the revised project included in the 100% design plans would require implementation of Mitigation Measure AIR-1. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measure is required to be implemented under this Addendum No. 3.

> **AIR-1:** IRWD shall require the construction contractor to implement construction equipment features for equipment operating at the project site during certain construction phases. Construction features will include the following: The proposed project shall utilize off-road diesel-powered construction equipment that meet or exceed CARB and USEPA Tier 4 off-road emissions standards for standard construction equipment rated at 50 horsepower (hp) or greater during project construction. Such equipment will be outfitted with BACT devices including a CARB certified Level 3 Diesel Particulate Filter or equivalent. At a minimum, this measure shall apply during implementation of the following construction sub-phases: upstream excavation and foundation treatment, dam excavation and foundation treatment, installation of embankment to the bottom of the blanket drain, and installation of the chimney/remaining embankment.

b) Cumulatively considerable net increase of any criteria pollutant?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would generate air pollutant emissions from vehicle trips generated by construction workers, vendor trucks, and haul trucks traveling to and from the Syphon Reservoir Improvement Project site and the use of construction equipment. Operation of the Syphon Reservoir Improvement Project would not result in new or increased use of motor vehicles, aside from periodic maintenance vehicles. Air pollutant emissions were quantified using the California Emissions Estimator Model for off-road equipment and the On-Road Mobile Source Emissions Factors model for on-road vehicles. The maximum daily construction emissions for the Syphon Reservoir Improvement Project were estimated for each construction phase. Some individual construction phases could potentially overlap; therefore, the estimated maximum daily emissions include these potential overlaps by combining the relevant construction phase emissions. As indicated in the Syphon Reservoir Improvement Project FEIR, construction-related daily emissions were found to exceed the SCAQMD threshold of significance for NO_X. For all other criteria pollutants, emission levels would be below the applicable thresholds of significance. Because maximum regional emissions from construction would exceed the regional threshold of significance for NO_X, regional construction emissions impacts were found to be potentially significant. Construction-related daily emissions were reduced to below the SCAQMD threshold of significance for NOx with the implementation of Mitigation Measure AIR-1. Thus, the Syphon Reservoir Improvement Project regional construction emissions impacts were mitigated to less than significant.

Annual construction emissions were compared to the General Conformity *de minimis* levels for the National Ambient Air Quality Standard (NAAQS) non-attainment areas. In the unmitigated scenario, annual construction emissions of NO_X, were found to exceed the applicable General Conformity *de minimis* level of 10 tons per year. However, with implementation of Mitigation Measure AIR-1, annual construction emissions were found to be below applicable General Conformity *de minimis* levels and thus would not conflict with implementation of the State Implementation Plan. Therefore, no further conformity analysis was required for any of the pollutants, and no significant adverse effect from the Syphon Reservoir Improvement Project would occur.

The revised project included in the 100% design plans would require the use of generally similar types of construction equipment as the project analyzed in the Syphon Reservoir Improvement Project FEIR. However, the duration of construction and amount of fill required for the dam replacement would be increased compared to the analysis in the Syphon Reservoir Improvement Project FEIR. The 100% design plans would increase the duration of construction from approximately 41 months to 60 months and would increase the volume of fill imported from approximately 100,000 cubic yards to 200,000 cubic yards. The number of daily construction equipment and trucks would be the same as analysis in the Syphon Reservoir Improvement Project FEIR (66 haul trips daily), but the number of construction work days would be increased to accommodate the increased fill import and associated construction activities.

Table 3 shows the maximum daily emissions from the Syphon Reservoir Improvement Project with the 100% design plans. The Syphon Reservoir Improvement Project FEIR included maximum daily emissions from additional geotechnical investigations (i.e., borings, test pits, or trenches). The geotechnical investigations have been completed and would not overlap with the maximum daily emissions from the 100% design plans. Therefore, the maximum daily emissions from additional

geotechnical investigations in the Syphon Reservoir Improvement Project FEIR are not included in the analysis for the 100% design plans. Maximum daily emissions from the off-site mitigation, which was analyzed in Addendum No. 2, have been included in order to provide a worst case daily emission scenario. As shown, maximum daily emissions with the inclusion of Mitigation Measure AIR-1 would not exceed the significance thresholds. Thus, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

TABLE 3
ESTIMATED MAXIMUM MITIGATED REGIONAL CONSTRUCTION EMISSIONS – SYPHON RESERVOIR IMPROVEMENT PROJECT AND 100% DESIGN PLANS (POUNDS PER DAY)

Construction Sub-Phase	VOC	NO_X	CO	SO_2	PM10[a]	PM2.5[a]
SRIP FEIR with 100% Design Plans (pounds/day)[b]						
Maximum Daily Emissions (Excluding Geotechnical): Dam Excavation & Construction of Dam (Install Inlet/Outlet)	7	72	144	<1	17	8
SRIP Off-Site Mitigation (pounds/day)[b]						
Maximum Daily Emissions: Installation of Irrigation Infrastructure and Site Vegetation Planting	1.4	21.3	50.9	<1	6.6	2.5
Maximum Daily Emissions (SRIP with 100% Design Plans and Off-Site Mitigation)	**8.4**	**93.3**	**194.9**	**<1**	**23.6**	**10.5**
SCAQMD Thresholds of Significance	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	No	No	No	No	No

Notes:

Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided **Appendix B** of this Addendum.

a. Emissions include fugitive dust control measures consistent with SCAQMD Rule 403, including subsection (e) – Additional Requirements for Large Operations.
b. Incorporates Mitigation Measure AIR-1.

Source: ESA 2021; 2023.

Annual emissions for mitigated emissions were compared to the General Conformity *de minimis* levels for NAAQS non-attainment areas. As discussed previously, the 100% design plans would increase the duration of construction from approximately 41 months to 60 months and would increase the volume of fill imported from approximately 100,000 cubic yards to 200,000 cubic yards. The number of daily construction equipment and trucks would be the same as analysis in the Syphon Reservoir Improvement Project FEIR (66 daily haul trips), but the number of construction work days would be increased to accommodate the increased fill import and associated construction activities. Therefore, annual emissions were scaled from the emissions modeling conducted for the Syphon Reservoir Improvement Project FEIR by increasing the number of days for construction and hauling.

Table 4 provides the annual construction emissions. With implementation of Mitigation Measure AIR-1, annual construction emissions would be below applicable General Conformity *de minimis* levels and thus would not conflict with implementation of the State Implementation Plan. Additionally, short-term direct construction emissions associated with the revised project included in the 100% design plans would not conflict with or obstruct implementation of applicable long-term air quality management plans. Therefore, no further conformity analysis is required for any of the pollutants because their emissions would be less

than the conformity *de minimis* levels. Thus, the refinements as part of the 100% design plans would not result in a significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

TABLE 4
GENERAL CONFORMITY – SYPHON RESERVOIR IMPROVEMENT PROJECT AND 100% DESIGN PLANS

Year	VOC	NO_x	CO	PM10[a]	PM2.5[a]
SRIP FEIR with 100% Design Plans (tons/year)[b]					
Year 1 (Partial Year)	<1	1	3	<1	<1
Year 2	1	5	13	1	1
Year 3	<1	6	9	1	1
Year 4	1	7	14	2	1
Year 5	<1	5	11	1	<1
Year 6 (Partial Year)	<1	1	1	<1	<1
SRIP Off-Site Mitigation (tons/year)[b]					
Year 1	<1	<1	1.6	<1	<1
Year 2	<1	<1	<1	<1	<1
Year 3	<1	<1	<1	<1	<1
Maximum Annual Emissions (SRIP, Off-Site Mitigation and 100% design plans)	**1**	**7**	**16**	**2**	**1**
***De Minimis* Levels**	10	10	100	100	70
Exceeds *de minimis*?	No	No	No	No	No

Notes:

Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in **Appendix B** of this Addendum.

a. Emissions include fugitive dust control measures consistent with SCAQMD Rule 403, including subsection (e) – Additional Requirements for Large Operations.
b. Syphon Reservoir Improvement Project FEIR emissions were modeled with a starting year of 2022 with completion in 2025. Syphon Reservoir Improvement Project Off-Site Mitigation emissions were modeled with a starting year 2025 with completion in 2027. For the purposes of this assessment, maximum annual emissions associated with the Syphon Reservoir Improvement Project FEIR and Syphon Reservoir Improvement Project Off-Site Mitigation were summed together regardless of the year in which the emissions occur in order to provide a conservative (i.e., environmentally protective) assessment. Emission estimates incorporates Mitigation Measure AIR-1.

Source: ESA 2025.

The 100% design plans would not result in any new permanent vehicle trips to occur because maintenance and operational activities are anticipated to remain similar to conditions analyzed in the Syphon Reservoir Improvement Project FEIR. Operational regional criteria pollutant emissions were found to not exceed one pound per day for all criteria pollutants during operational activities, which would not exceed the SCAQMD thresholds of significance for any criteria pollutants. Therefore, regional operation-related emissions impacts were found to be less than significant. Annual operation-related emissions would be less than 0.2 ton per year, well below any of the applicable General Conformity *de minimis* thresholds. Therefore, no further conformity analysis was required for any of the pollutants because their emissions would be less than the conformity *de minimis* levels, and no significant adverse effect from Syphon Reservoir Improvement Project operations would occur. As a result, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in

the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measure is required to be implemented under this Addendum No. 3.

Implement **Mitigation Measure AIR-1**.

c) Expose sensitive receptors to substantial pollutant concentrations?

The Syphon Reservoir Improvement Project FEIR identified that construction of the Syphon Reservoir Improvement Project would result in maximum localized construction emissions that would exceed the localized significance threshold for NO_X, and impacts to sensitive receptors would be potentially significant. All other criteria pollutants of local concern (carbon monoxide, particulate matter measuring 10 microns or less in diameter, and particulate matter measuring 2.5 microns or less in diameter) would not exceed the localized significance thresholds. Construction-related emissions would be reduced to below the SCAQMD localized significance threshold for NO_X with the implementation of Mitigation Measure AIR-1. Because the Syphon Reservoir Improvement Project FEIR maximum localized emissions from construction were found to be reduced to below the localized significance threshold, localized construction emissions impacts would be less than significant with the incorporation of Mitigation Measure AIR-1.

The Syphon Reservoir Improvement Project FEIR identified that construction of the Syphon Reservoir Improvement Project would result in a significant impact for lifetime cancer risk because the SCAQMD significance threshold for toxic air contaminant emissions of an incremental cancer risk greater than 10 in one million for any receptor would be exceeded. Implementation of Mitigation Measure AIR-1 would reduce diesel particulate matter emissions from Syphon Reservoir Improvement Project construction activities. The estimated incremental cancer risk for Syphon Reservoir Improvement Project construction activities with implementation of Mitigation Measure AIR-1 would be between 1.43 per million and 3.44 per million, depending on the level at which the mitigation is implemented, which would be well below the significance threshold of 10 in one million. Toxic air contaminant impacts would be less than significant with the incorporation of Mitigation Measure AIR-1. Both unmitigated and mitigated non-carcinogenic health risk impacts of the Syphon Reservoir Improvement Project would be below the significance threshold of a chronic Hazard Index of 1.0 for the maximum impacted receptor. Therefore, the Syphon Reservoir Improvement Project FEIR found this impact to be less than significant.

The Syphon Reservoir Improvement Project FEIR identified that operation of the Syphon Reservoir Improvement Project would result in maximum daily localized emissions that would not exceed 1 pound per day and therefore would not exceed localized significance thresholds. As the Syphon Reservoir Improvement Project maximum localized operational emissions would not exceed the localized thresholds of significance for NO_X, CO, PM10, or PM2.5, operational emissions impacts to sensitive receptors would be less than significant.

The nearest air quality sensitive uses to the Project site are those as described in the Syphon Reservoir Improvement Project FEIR, which include residential neighborhoods approximately 180 feet southwest of the intersection of Portola Parkway and Sand Canyon Avenue, the Crean Lutheran High School located

approximately 140 feet southeast of the Project site at the intersection of Portola Parkway and Sand Canyon Road,[2] and residences to the east of SR-133 are approximately 1,000 feet from onsite construction activities. As discussed previously, the 100% design plans would increase the duration of construction from approximately 41 months to 60 months and would increase the volume of fill imported from approximately 100,000 cubic yards to 200,000 cubic yards. However, the number of daily construction equipment and trucks would be the same as analysis in the Syphon Reservoir Improvement Project FEIR (66 daily haul trips). Therefore, maximum daily localized emissions would be the same as analyzed in the Syphon Reservoir Improvement Project FEIR. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Similar to the analysis included in the Syphon Reservoir Improvement Project FEIR, operation of the revised project reflected in the 100% design plans would result in maximum daily localized emissions that would not exceed 1 pound per day and therefore would not exceed localized significance thresholds. As the Syphon Reservoir Improvement Project Off-Site Mitigation maximum localized operational emissions would not exceed the localized thresholds of significance for NO_X, CO, PM10, or PM2.5, operational emissions impacts to sensitive receptors would be less than significant. Thus, the Syphon Reservoir Improvement Project Off-Site Mitigation would not result in a significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measure is required to be implemented under this Addendum No. 3.

Implement **Mitigation Measure AIR-1**.

d) Other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project may emit other emissions such as odors during construction. The Syphon Reservoir Improvement Project would comply with the applicable provisions of SCAQMD Rule 1113, which limits the amount of odor-causing volatile organic compound emissions in architectural coatings and solvents. In addition, the Syphon Reservoir Improvement Project would comply with the applicable provisions of the CARB ATCM regarding idling limitations for diesel trucks. Furthermore, construction emissions for the Syphon Reservoir Improvement Project would not exceed the SCAQMD regional significance thresholds for attainment, maintenance, or unclassifiable criteria air pollutants (i.e., carbon monoxide and sulfur dioxide). Therefore, Syphon Reservoir Improvement Project construction activities were found to result in less than significant impacts with respect to other emissions, including those leading to odors.

Operation of the Syphon Reservoir Improvement Project would not include land uses associated with odor complaints, which, according to the SCAQMD *CEQA Air Quality Handbook*, typically include

[2] While the Crean Lutheran High School Athletic Complex is located adjacent to the project site area, the athletic complex itself is not considered a sensitive receptor as it would only be occupied for a limited amount of time, similar to that of a local gym, park, or other commercial establishment. The majority of student time would be spent at the main school site and therefore that would be the closest school associated sensitive receptor.

agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Furthermore, operational emissions would not exceed the SCAQMD regional significance thresholds for attainment, maintenance, or unclassifiable criteria air pollutants (i.e., carbon monoxide and sulfur dioxide). Therefore, operation of the Syphon Reservoir Improvement Project would result in less than significant impacts with respect to other emissions, including those leading to odors.

Similar to the analysis included in the Syphon Reservoir Improvement Project FEIR, the revised project reflected in the 100% design plans may emit other emissions such as odors during construction. The 100% design plans would comply with the applicable provisions of the CARB Air Toxics Control Measure regarding idling limitations for diesel trucks. The 100% design plans would not require architectural coatings or solvents. As discussed above, construction emissions for the revised project included in the 100% design plans would not exceed the SCAQMD regional significance thresholds for attainment, maintenance, or unclassifiable criteria air pollutants (i.e., CO and SO_2). Therefore, construction activities for the revised project included in the 100% design plans would result in less than significant impacts with respect to other emissions, including those leading to odors. Therefore, the refinements as part of the 100% design plans would not result in a significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Similar to the analysis included in the Syphon Reservoir Improvement Project FEIR, operation of the revised project reflected in the 100% design plans would not include land uses associated with odor complaints, which typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Furthermore, operational emissions would not exceed the SCAQMD regional significance thresholds for attainment, maintenance, or unclassifiable criteria air pollutants (i.e., CO and SO_2). Therefore, operation of the revised project included in the 100% design plans would result in less than significant impacts with respect to other emissions, including those leading to odors. Thus, the refinements as part of the 100% design plans would not result in a significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Air Quality

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to air quality. No further environmental review is required. (Public Resources Code § 21166; CEQA Guidelines § 15162.).

References

SCAQMD. 2020c. Air Quality Analysis Handbook. Available at www.aqmd.gov/home/rulescompliance/ceqa/air-quality-analysis-handbook.

3.4 Biological Resources

Issues (and Supporting Information Sources):		*Yes*	*No Impact*
IV.	**BIOLOGICAL RESOURCES —** Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒
c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

To evaluate the refinements as part of the 100% design plans, a GIS-based analysis was performed to determine the areas directly affected by the revised design and calculate the effects on the site's various plant communities for comparison with the effects reported in the Syphon Reservoir Improvement Project FEIR. The analysis was based on CAD drawings of the 100% design plans overlayed on the same biological resources mapping used for the Syphon Reservoir Improvement Project FEIR. The limits of each Project element were verified with the project engineering team prior to running the GIS analysis.

Figure 3 depicts areas within the Syphon Reservoir property that will be subject to permanent and temporary impacts. The refined project design will result in various types of permanent and temporary impacts from activities identified in Table 2. Project elements such as grading, earthmoving and construction of the new dam, control structures, buildings, parking areas, access roads and paths (including adjacent buffers along roads and paths subject to vegetation clearing for maintenance) would result in permanent displacement of existing vegetation and land cover. Also, any natural areas remaining below the water line are also considered permanently impacted as they will be displaced when the reservoir is filled up to the Maximum Operating Water Surface or "MOWS" elevation (456 feet amsl).

The recognition of areas considered permanently impacted by being submerged does not represent a new impact, but only a clarification. The Syphon Reservoir Improvement Project FEIR anticipated that all areas would be graded up to the edge of the proposed lake limit. The 100% design plans show that the entire area that would be inundated would not all be subject to grading as indicated on Figure 3.

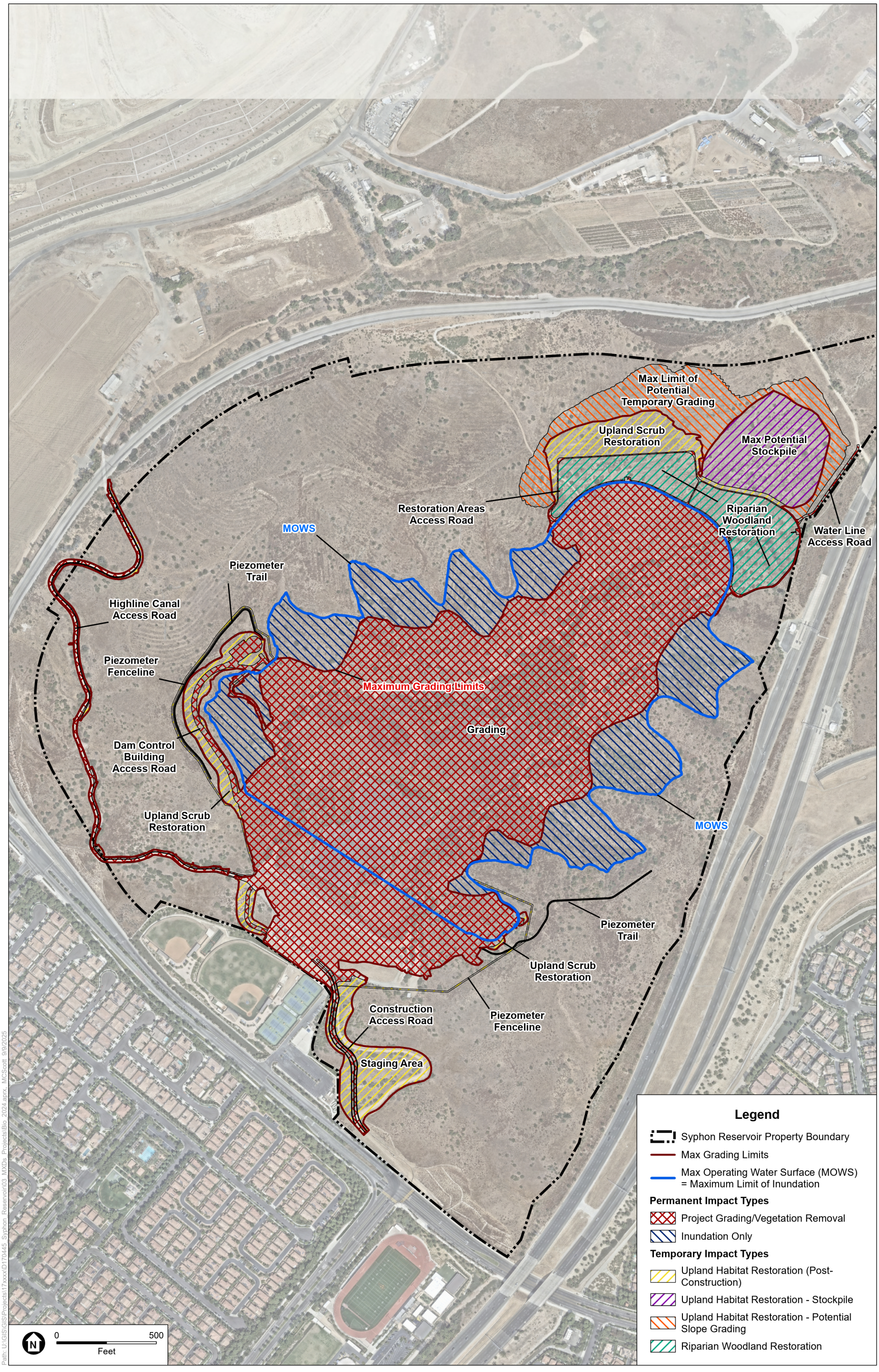
Syphon Reservoir Improvement Project FEIR Table 3.3-3, *Impacts to Natural Communities* (p. 3.3-49), categorized impacts in terms of permanent or temporary but also included a column for "permanent beneficial impacts" that identified areas that would be displaced by the project but where upland or riparian/wetland habitat restoration would be established. That table enumerated impacts for each plant community classified according to dominant species. To present a simple and straightforward comparison between the impacts identified in the Syphon Reservoir Improvement Project FEIR and the impacts calculated using the 100% design plans, the data from the original table has been consolidated according to major habitat types for presentation in **Table 5**, below.

TABLE 5
VEGETATION COMMUNITY IMPACTS SUMMARIZED FROM THE SYPHON RESERVOIR IMPROVEMENT PROJECT FEIR

Natural Community	Existing (Acres)	Permanent Impacts (Acres)	Permanent Beneficial Impacts* (Acres)	Temporary Impacts (Acres)	Total Impacts (Acres)	Avoided[3] (Acres)
Woody Riparian Communities	6.62	6.36	0.05	-	6.41	0.21
Freshwater Marsh	5.87	5.87	-	-	5.87	-
Native Scrub & Mixed Scrub / Grassland	106.86	24.89	3.48	0.85	29.22	77.64
Grassland / Native Scrub (Low Scrub)	71.70	24.14	3.07	0.97	28.18	43.52
Chaparral and Ruderal (Herbaceous)	51.06	15.07	15.89	0.45	31.41	19.65
Non-native Eucalyptus Woodland	2.78	2.32	0.37	-	2.67	0.11
Open Water	13.93	13.93	-	-	13.93	-
Disturbed	6.92	3.26	0.05	0.43	3.74	3.18
Total	**265.74**	**95.84**	**22.91**	**2.70**	**121.43**	**144.31**

* Areas expected to be impacted by the proposed project but would be replaced by either riparian or upland habitat restoration (combined).

[3] "Avoided" acres refers to the areas that would not be subject to direct Project impacts per the Syphon Reservoir Improvement Project FEIR. Areas that the Project avoided occur beyond the limit of Project grading, inundation, and mitigation areas, and would be preserved in a pre-project condition.



SOURCE: ESA, 2025.

Syphon Reservoir Improvement Project Design Refinements

ESA

Figure 3
Project Impacts by Type

Table 6 presents the results of the GIS-based analysis which encompasses all Syphon Reservoir Improvement Project facilities plus changes reflected in the 100% design plans articulated in *Project Description* Table 1. As shown from a comparison of Tables 5 and 6, the number of acres of temporary and permanent impacts increased slightly but not substantially, while the total restoration acreage within the areas subject to impacts also increased.

TABLE 6
VEGETATION COMMUNITY IMPACTS – 100% DESIGN PLANS

Natural Community	Existing (Acres)	Permanent Impacts (Acres)	Temporary Impacts: Upland Restoration (Acres)	Temporary Impacts: Riparian Restoration (Acres)	Total Impacts (Acres)	Avoided[4] (Acres)
Woody Riparian Communities	6.62	6.06	-	0.39	6.45	0.17
Freshwater Marsh	5.87	5.87	-	-	5.87	-
Native Scrub & Mixed Scrub / Grassland	106.86	27.60	3.09	-	30.69	76.17
Grassland / Native Scrub (Low Cover)	71.70	23.15	2.72	1.51	27.38	44.32
Chaparral and Ruderal (Herbaceous)	51.06	13.46	15.59	3.85	32.90	18.16
Non-native Eucalyptus Woodland	2.78	1.74	0.11	0.84	2.69	0.09
Open Water	13.93	13.93	-	-	13.93	-
Disturbed	6.92	3.26	0.71	0.04	4.01	2.91
Total	**265.74**	**95.07**	**22.22**	**6.24**	**123.92**	**141.82**

The more refined current design provides more accurate outlines for the limits of areas that will be used for woody riparian mitigation (as shown on Figure 3), thus enabling a more accurate analysis using GIS. Likewise, the refined grading and additional detail provided by 100% design plans allows for a more accurate impact analysis and more precise identification of the maximum extent of areas that would be available for revegetation with native upland scrub vegetation. Because the 100% design presents the final design to be used for construction, the Project's impacts are also more accurately identified and calculated.

Removal of the pedestrian walking trail represents a small reduction in terms of potential habitat impacts. The previously proposed trail followed the highline canal maintenance access road between the dam and Bee Canyon Access Road and would have extended to the north for approximately 1,930 feet, to connect with another existing access road off the Bee Canyon Access Road. The maintenance road along the highline canal will continue to serve as a maintained access road for IRWD operations, but eliminating the pedestrian trail will reduce the impact of continuing the trail up the northern segment, which reduces impacts to natural Native Scrub / Grassland habitat by approximately 0.35 acre. A more significant impact reduction results from disallowing any pedestrian or public access, as it eliminates the potential disruptive effect of frequent human activity on wildlife in the vicinity of the trail.

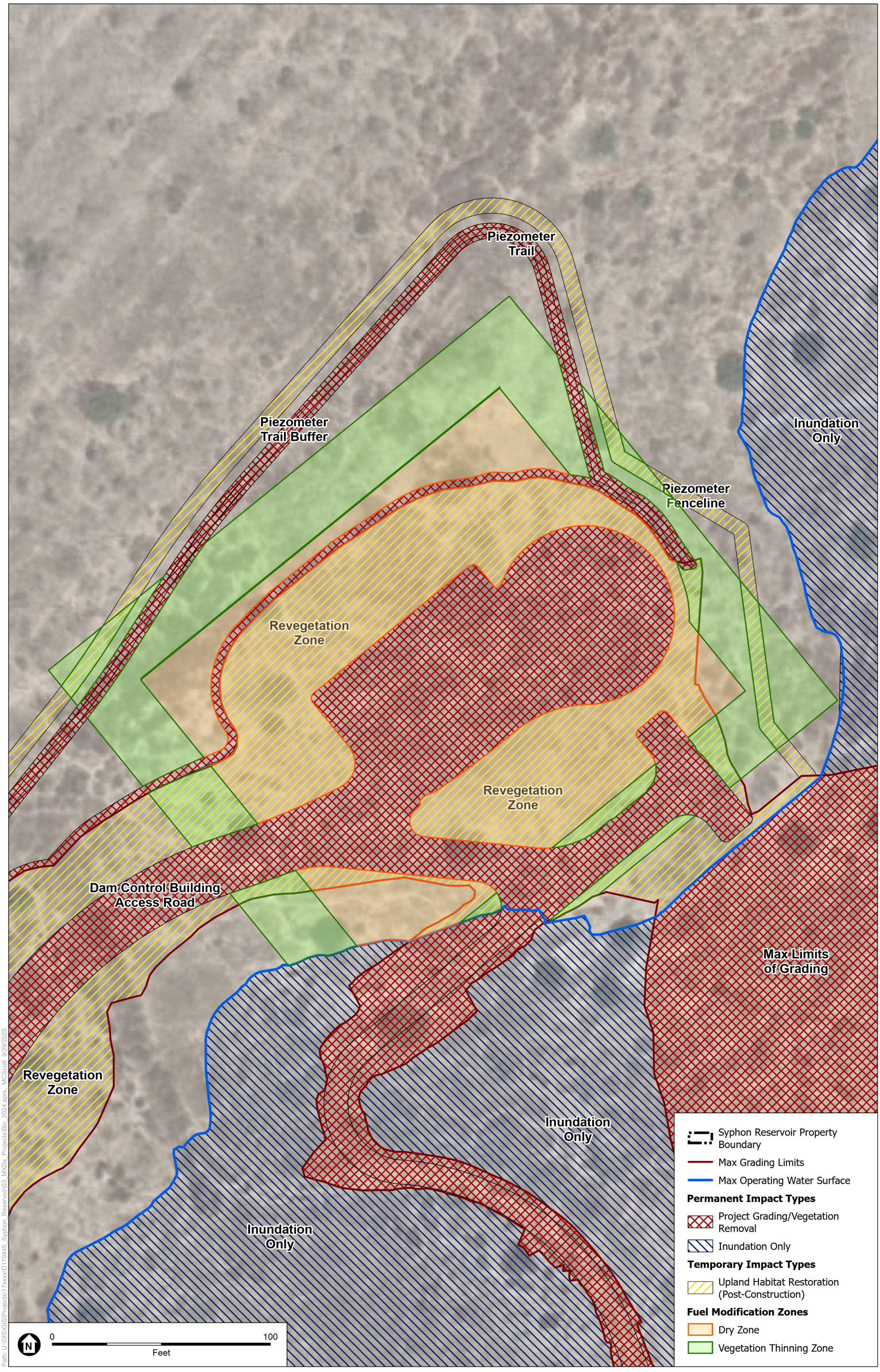
[4] "Avoided" acres refers to the areas that will not be subject to direct Project impacts according to the 100% Design. Areas that the Project would avoid occur beyond the limit of Project grading, inundation, and mitigation areas, and would be preserved in a pre-project condition.

The 100% design also enables a more accurate analysis of certain construction and maintenance impacts because it includes detailed plans for the access roads and associated clearance areas that were not known in detail at the time the Syphon Reservoir Improvement Project FEIR was certified. For example, a five-foot wide vegetation clearing buffer was added to both sides of each access road and considered permanently impacted, since those strips would be subject to periodic maintenance to control vegetative growth too close to the drivable surface. The newly added piezometer trails and adjacent fence lines were also mapped and associated impacts included for this analysis. The 3-foot-wide piezometer trails, plus a 2-foot-wide vegetation clearing buffer on either side (i.e., 7-foot total width) is counted as a permanent impact and contributes to new permanent impacts identified in Table 6 as part of the 100% design. For fence construction, this evaluation assumed a 6-foot-wide temporary impact along the length of both fence lines, as vegetation would be allowed to reestablish naturally and fill in the disturbed strip after fence placement, which contributes to the increase in temporary impacts compared to acreages assumed in the Syphon Reservoir Improvement Project FEIR.

In addition, the cut slope to be graded on the northeast side of the riparian habitat restoration area is designated for upland restoration after grading and construction is completed. The Syphon Reservoir Improvement Project FEIR included an area extending beyond that cut slope to allow for potential additional grading if needed to remediate subsurface conditions or to extract more material for dam construction if more competent material is needed. That design limit is still being used for this analysis but may ultimately not be needed. For the current analysis, that "extra" area amounts to a total of 7.26 acres of predominantly grassland vegetation beyond the planned cut slope. Furthermore, the current plan identifies a potential permanent stockpile site that would cover up to 5.62 acres also just northeast of the riparian restoration area (as shown on Figure 3). To the extent that these areas are graded or material is placed permanently, they are both planned to be revegetated with native upland scrub.

The impact categories in the columns of the two tables do not use the same labels but essentially identify the same effects. Table 5 characterizes the areas that were counted as disturbed by the Syphon Reservoir Improvement Project FEIR but were to have been restored with upland or riparian habitat and thus counted as "permanent beneficial impacts". Areas that were not clearly defined as being planned specifically for restoration were then simply counted as "temporary impacts." Table 6 refines these into one category by characterizing all areas that are not designated to be restored as "permanent impacts" and specifies whether areas that will be temporarily impacted will be restored with upland or riparian habitat types, as depicted on Figure 3. Table 6 represents a more accurate analysis because the 100% design is more refined.

The refinements as part of the 100% design plans also include plans for constructing the dam control building near the ridge overlooking the dam on the northwest side of the reservoir. Standard fire protection for structures located in or adjacent to naturally vegetated areas involves establishing fuel reduction zones where brush is thinned to reduce the fuel load near the building location. **Figure 4** shows the extent of the two brush thinning zones around the structure and identifies whether the thinning would occur in otherwise undisturbed natural vegetation, or in areas to be maintained with reduced vegetation cover where some revegetation would occur.



SOURCE: ESA, 2025.

Syphon Reservoir Improvement Project Design Refinements

ESA

Figure 4
Fuel Modification Zone Impacts

Fuel modification associated with the 100% design plans in natural areas represents an increased contribution to the total permanent impact acreage from what was evaluated in the Syphon Reservoir Improvement Project FEIR. The existing vegetation mapped in the affected area was mapped as a non-native herbaceous cover / sagebrush scrub, an ecotonal type of vegetation exhibiting limited cover contributed by native scrub shrubs. Fuel modification areas include an inner "dry zone" which is a non-irrigated area cleared of undesirable and invasive species and may be vegetated with a native mix of herbs and shrubs that provide ground cover with low fuel volume. Most typical sage scrub shrub species are disallowed in this zone, except coyote brush (*Baccharis pilularis*), which is a small evergreen shrub that is not drought-deciduous, so does not contribute to the fuel load. The dry zone designation, shown in orange on Figure 4, will affect approximately 0.51 acres, including 0.38 acres to be revegetated after construction and 0.13 acres of undisturbed natural areas.

Fuel modification also extends approximately 60 feet outside the dry zone within a special maintenance area designated as the "thinning zone." Vegetation within this zone is subject to thinning to reduce the fuel load and removal based on annual review. As stipulated in the fuel modification plan approved by the Orange County Fire Authority, the "special maintenance area program is to provide annual review of the native vegetation within this area and if necessary, maintenance, which may include removal or thinning of invasive and or undesirable plant material which can impact the health of the native vegetation and or increase the risk of wildfire". The plan also notes that "this area is existing mixed coastal sage scrub and is to be preserved per project EIR." However, it is clear that preservation includes management to reduce the fuel load as necessary. The thinning zone designation, shown in green on Figure 4, will affect approximately 0.40 acres, including 0.08 acres to be revegetated after construction (including along sections of the piezometer fence line) and 0.32 acres of otherwise undisturbed natural areas.

The total area potentially affected within the designated fuel modification zones, excluding all permanently impacted areas (shown in red cross-hatching on Figure 4), amounts to a total of just 0.91 acre, including 0.45 acre of natural areas, and 0.46 acre within areas planned to be revegetated after construction is completed. The fact that the existing vegetation in the affected areas is mapped as predominantly non-native herbaceous cover makes this new impact less severe. However, the area is within the NCCP/HCP Reserve and contains some limited native coastal sage scrub vegetation. Therefore, this impact is included along with all other direct impacts that displace upland scrub or grassland/ scrub ecotone and requires the same mitigation. However, this contribution to the Project's direct impacts involving habitat modifications will not alter the conclusions presented in the FEIR. All these impacts are mitigated to a less than significant level through compliance with the NCCP/HCP and by implementation of mitigation measures BIO-1, BIO-2, BIO-5, and BIO-6.

Special-Status Plants

The Syphon Reservoir Improvement Project FEIR noted that four special-status plant species - Catalina mariposa lily (California Rare Plant Rank [CRPR] 4.2, Central Subregion of the Orange County Central & Coastal Subregions NCCP/HCP Covered), intermediate mariposa lily (CRPR 1B.2), multi-stemmed dudleya (CRPR 1B.2), and San Diego viguiera (CRPR 4.3) - were observed during focused surveys of the project site in 2018 and 2019. The Syphon Reservoir Improvement Project was found to avoid impacts to any specimens of intermediate mariposa lily, multi-stemmed dudleya, and San Diego viguiera, and no mitigation was required. The FEIR also concluded that the Syphon Reservoir Improvement Project avoided more than 90 percent of the Catalina mariposa lily specimens, but construction would remove

approximately 24 of the 309 Catalina mariposa lily individuals noted during surveys. This loss was determined not to threaten the existence of the on-site population and would not be significant. Moreover, Catalina mariposa lily is a covered species under the NCCP/HCP, and the NCCP/HCP provides for the regional conservation for this and other covered species. Therefore, impacts to Catalina mariposa lily were determined to be less than significant.

The 100% design would still avoid impacts to many-stemmed dudleya and San Diego viguiera as these populations were located near the edges of the site where no work will occur. However, the modifications associated with the 100% design of the access road to the dam control building would result in impacts to approximately one half of the intermediate mariposa lily population and would also impact more of the population of Catalina mariposa lily on the west side of the ridge where access road grading will occur. Surveys conducted in 2018 and 2019, prior to the Silverado Fire that completely burned the area where the mariposa lily populations were documented, provides a useful reference to indicate where the grading may affect the area where these populations were recorded, but cannot be used to precisely show how many specimens or how much of the population of either species may be affected by the 100% design modifications. It is important to recognize that the populations were found in relatively small discreet areas and were not widespread or highly abundant on the site.

Intermediate mariposa lily (*Calochorthus weedii* var. *intermedius*) is the only variety of foothill mariposa lily (*Calochortus weedii*) that occurs in Orange County and, as a type of foothill mariposa lily, is also a covered species under the NCCP/HCP. Therefore, although the revised project included in the 100% design plans will result in additional impacts to this species, because the NCCP/HCP provides for the regional conservation for this and other covered species, such limited impacts are mitigated to below the level of significance through participation in and compliance with provisions of the NCCP/HCP and the Implementing Agreement. Given that impacts to intermediate mariposa lily are addressed and mitigated through participation in and compliance with the NCCP/HCP, the 100% design modifications would not change that finding and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Special-Status Wildlife

Special-status wildlife species observed, or considered to have a moderate or high potential to occur within the Syphon Reservoir Improvement Project site include the following NCCP/HCP Covered Species: coastal California gnatcatcher (*Polioptila californica californica*), orange-throated whiptail (*Aspidoscelis hyperythra*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), along with several raptor species that may be observed foraging or flying over the site but have not been known to nest on site, such as white-tailed kite.

Species that are covered under the NCCP/HCP are considered to be conserved within the NCCP/HCP region provided that the Syphon Reservoir Improvement Project complies with the NCCP/HCP provisions. As a future infrastructure improvement that was originally recognized by the NCCP/HCP and for which IRWD has a credit allotment that can be “spent” or exchanged for the displacement of areas within the NCCP Reserve, the Syphon Reservoir Improvement Project is considered a permitted use within the Reserve System. Therefore, potential impacts to Covered Species within the Reserve are considered adequately covered under the NCCP/HCP provided that the proposed project complies with the NCCP/HCP provisions.

Regarding how the revised project included in the 100% design plans compares to the effects noted in the Syphon Reservoir Improvement Project FEIR, the FEIR found that the Project would directly impact up to approximately 29.22 acres of CSS communities, and 28.18 acres of grassland CSS ecotone, as indicated on Table 5, above. Several special-status species, such as the gnatcatcher and orange-throated whiptail, are closely associated with CSS as their primary habitat. Similar to the Syphon Reservoir Improvement Project FEIR, impacts to special status species as a result of the 100% design plans are potentially significant. The 100% design (Table 6) would result in roughly equivalent effects as compared to the effects identified in the Syphon Reservoir Improvement Project FEIR, with impacts to CSS and grassland / scrub ecotone amounting to 30.69 and 27.38 acres, respectively. That impact is just 1.47 more acres of CSS but 0.80 acres less grassland / scrub ecotone than identified in the Syphon Reservoir Improvement Project FEIR. Adding 0.91 acre of fuel modification impacts, which would occur in grassland / scrub ecotone, the total impact increases by 1.58 total acres as compared to the FEIR total, including 1.47 more acres of CSS and 0.11 acres of grassland scrub ecotone. This represents a change amounting to less than 3 percent. This change is not substantial and would not change the finding in the FEIR that these impacts are reduced to a less than significant level by implementation of Mitigation Measure BIO-1.

Implementation of Mitigation Measures BIO-1 requires IRWD to utilize some of its allotted Incidental Take Credits for CSS impacts (as a participating landowner) in accordance with NCCP/HCP stipulations. Mitigation Measure BIO-1 also requires additional on- and/or off-site creation, restoration, and/or enhancement of areas containing natural communities suitable for special-status species and also mandates off-site land acquisition, preservation, creation, restoration, and/or enhancement of natural communities suitable for special-status species, as identified at the time the Syphon Reservoir Improvement Project FEIR was certified. Finally, Mitigation Measure BIO-1 requires that areas subject to temporary impacts be returned to pre-project conditions (i.e., pre-project elevation contours and revegetated with native upland scrub species) and stipulates planning and monitoring to achieve that objective. It must be noted that the 100% design now provides refinements that allow recognition of approximately 22.22 acres of upland habitat restoration in areas temporarily affected by project implementation, as well as 6.24 acres planned for on-site riparian restoration, which adds at least 2.85 acres to the total area noted for habitat restoration on-site (see Table 6). Thus, Mitigation Measure BIO-1 addresses all potential impacts involving loss or displacement of habitat for special-status wildlife species. Therefore, Mitigation Measure BIO-1, along with Mitigation Measures BIO-2 and BIO-3, which are designed to avoid or minimize potential direct impacts to special-status wildlife species, would reduce impacts to a less than significant level.

Least Bell's Vireo

The least Bell's vireo (*Vireo bellii pusillus*) is listed as a federal and state Endangered species but is a Conditionally Covered species under the NCCP/HCP. This species is found in riparian habitat, and a number of least Bell's vireo individuals and/or territories were identified during surveys performed in 2019 at the Syphon Reservoir Improvement Project site for the FEIR. The Wildlife Agencies (i.e., USFWS and CDFW) indicated that the NCCP/HCP conditional coverage would apply for the Syphon Reservoir Improvement Project's impacts to least Bell's vireo (subject to agency-approved mitigation).

The revised project included in the 100% design plans would displace essentially the same amount of woody riparian habitat (6.45 acre) as was identified as impacted in the FEIR (6.41 acre) but would also

create approximately 6.24 acres of woody riparian habitat on-site that would provide replacement nesting habitat for the least Bell's vireo. Therefore, the conclusions in the FEIR would not change due to refinements as part of the 100% design plans. As with the earlier design and analysis, the new riparian habitat areas would be maintained with supplemental irrigation and would not depend on whether the reservoir is full or nearly full to be sustained. Woody riparian habitat, once established in the designated area for that habitat restoration, would provide both foraging and nesting opportunities that would benefit least Bell's vireo and other species. Nevertheless, there would be a temporary habitat loss until construction is completed and riparian habitat that the species can use is re-established. Similar to the Syphon Reservoir Improvement Project FEIR, this temporary loss would be potentially significant in terms of the temporary reduction to the amount of habitat available in the local region. Implementation of Mitigation Measure BIO-1 requires on and/or off-site creation, restoration, and/or enhancement of areas containing natural communities suitable for special-status wildlife species and also mandates off-site land acquisition, preservation, creation, restoration, and/or enhancement of natural communities suitable for special-status wildlife species.

Addendum No. 1 identified the off-site woody riparian mitigation area within a parcel at the San Joaquin Marsh south of Campus Drive and evaluated the effects of implementing a plan to restore up to 15.89 acres of woody riparian habitat at that site, of which up to 13.14 acres could provide compensatory mitigation for the reservoir improvement project's impacts. Therefore, Mitigation Measure BIO-1, along with Mitigation Measures BIO-2 and BIO-3, which are designed to avoid or minimize potential direct impacts to special-status wildlife species, would reduce impacts to a less than significant level.

Yellow Warbler and Yellow-Breasted Chat

Several yellow warbler (*Setophaga petechia*) and yellow-breasted chat (*Icteria virens*), which utilize woody riparian habitat similar to the least Bell's vireo, were observed on-site in 2019. Implementation of Mitigation Measure BIO1, which includes on-site riparian habitat creation at the Syphon Reservoir site and also requires additional riparian habitat to be established via the Syphon Reservoir Improvement Project Off-Site Mitigation, along with Mitigation Measures BIO-2 and BIO-3, would reduce impacts to a less than significant level. As noted above, the refinements as part of the 100% design plans would result in a negligible difference in impacts as compared to the project evaluated in the FEIR. Therefore, the finding in the FEIR would not change regarding these riparian habitat affiliated species. The requisite mitigation would reduce impacts to these special status species to a less than significant level.

Avian Species

The Syphon Reservoir Improvement Project FEIR found that direct impacts to avian species during the non-breeding season would not be potentially significant because these species are mobile and would be expected to fly away from the construction area, if present. However, if construction and maintenance work cannot be scheduled outside of nesting season, impacts to nesting special-status bird species would be potentially significant. Implementation of Mitigation Measure BIO-3 was found to reduce impacts to a less than significant level. The refinements as part of the 100% design plans would result in a negligible difference in impacts as compared to the project evaluated in the FEIR and would not change that finding.

Crotch's Bumble Bee

In June 2019, the California Fish and Game Commission accepted a petition to list CBB as a candidate for listing as endangered under CESA. Agricultural interests challenged CDFW's ability to list the

species, claiming that CESA's definition of a "species" does not cover insects. Due to this ongoing litigation, CBB was not analyzed in the Syphon Reservoir Improvement Project FEIR because it was not a State protected species at the time. In November 2020, the Sacramento Superior Court ruled that insects are not eligible for listing under CESA (*Almond Alliance of California v. California Fish and Game Commission*); however, in May 2022, the California Court of Appeal reversed the prior ruling, deciding that invertebrates are eligible for CESA listing. CDFW then reinstated candidate status for listing under CESA on September 30, 2022.

Direct effects to CBB may occur during implementation of the Syphon Reservoir Improvement Project. As discussed and addressed in Addendum No. 2 to the Syphon Reservoir Improvement Project FEIR, direct and indirect impacts to CBB would be potentially significant under CEQA. However, implementation of Mitigation Measure BIO-1 included in the Syphon Reservoir Improvement Project FEIR would offset the permanent and temporary impacts to sensitive natural communities suitable for CBB foraging and nesting by conserving off-site habitat and restoration of suitable on-site upland habitat. Project mitigation that would benefit CBB in the region was also described in detail in Addendum No. 2 and is also being addressed through the Section 2081 Incidental Take Permit process with CDFW.

Mitigation Measure BIO-2 included in the Syphon Reservoir Improvement Project FEIR would also reduce the potential for impacts to CBB through the demarcation of limits of disturbance and restrictions on the number of vehicle/equipment transportation routes and staging areas during construction. Additionally, Mitigation Measure BIO-5 from the Syphon Reservoir Improvement Project FEIR would require posting of educational signage and monitoring requirements. With implementation of Mitigation Measures BIO-1, BIO-2, and BIO-5 from the Syphon Reservoir Improvement Project FEIR, potential impacts to CBB would be reduced to a less than significant level, similar to the conclusions of the Syphon Reservoir Improvement Project FEIR for other special-status wildlife species that rely on affected habitat. No additional mitigation would be required to address impacts to CBB. Therefore, it was concluded in Addendum No. 2 that the change in the listing status of the CBB would not result in a new significant impact or a substantial increase in the severity of a previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR. The refinements as part of the 100% design plans would not result in a substantial difference in impacts as compared to the Syphon Reservoir Improvement Project evaluated in the FEIR and in Addendum No. 2 and would not change that finding.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measures are required to be implemented under this Addendum No. 3.

> **BIO-1:** IRWD has been engaged in close coordination with the Wildlife Agencies (i.e., USFWS and CDFW) since 2018 to develop a multi-faceted mitigation strategy to address impacts to California gnatcatcher, as well as to address the additional mitigation the agencies mandate to compensate for displacement of habitat and land previously set aside for mitigation and subject to the restrictions and requirements imposed under the Mitigation Grant Deed, of which USFWS is a third party beneficiary. ~~To date,~~ IRWD ~~has~~ researched numerous off-site lands with high value habitat and biological resources, and ~~initiated negotiations with landowners for possible acquisition~~ acquired an off-site property acceptable to both USFWS and CDFW for upland

habitat mitigation purposes. IRWD shall implement one, or a combination, of the following measures to mitigate permanent impacts to special-status wildlife species:

a. Use of Incidental Take Credits for participating landowners (within the Reserve, or outside of the Reserve) to offset permanent impacts to coastal sage scrub (e.g., California sagebrush scrub, California sagebrush scrub/non-native herbaceous cover, coyote brush scrub, chaparral bushmallow scrub, chaparral bushmallow scrub/non-native herbaceous cover, and non-native herbaceous cover/California sagebrush scrub) at a 1:1 impact-to-mitigation ratio.

b. On- and/or off-site creation, restoration, and/or enhancement containing natural communities suitable for special-status species or comparable, as determined acceptable by the USFWS and CDFW.

c. Off-site land acquisition, preservation, creation, restoration, and/or enhancement containing natural communities suitable for special-status species or comparable, as determined acceptable by the USFWS and CDFW.

d. Areas where temporary impacts occur would be returned to pre-project conditions (i.e., pre-project elevation contours and revegetated with native upland scrub species) within one-year after construction is completed, and will be monitored for three years, or until a qualified biologist determines that the project site has returned to pre-project conditions. A revegetation plan would be prepared to re-seed/re-plant the area with local species, and would include performance standards, success criteria, maintenance, and future monitoring.

BIO-2: In accordance with the NCCP/HCP, certain construction-related mitigation measures are required to minimize impacts to the coastal California gnatcatcher and other coastal sage scrub species. The removal of coastal sage scrub communities will be conducted in compliance with the NCCP/HCP's Construction Related Minimization Measures:

a. To the maximum extent practicable, no grading of coastal sage scrub habitat that is occupied by nesting gnatcatchers will occur during the breeding season (February 15 through July 15).

b. Prior to the commencement of grading operations or other activities involving significant soil disturbance, all areas of coastal sage scrub habitat to be avoided under the provisions of the NCCP/HCP shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub, a survey will be conducted to locate gnatcatchers and cactus wrens within 100 feet of the outer extent of projected soil disturbance activities and the locations of any such species shall be clearly marked and identified on the construction/grading plans.

c. A monitoring biologist, acceptable to USFWS/CDFW, will be on-site during any clearing of coastal sage scrub. IRWD will advise USFWS/CDFW at least seven calendar days (and preferably fourteen calendar days) prior to the clearing of any habitat occupied by Identified Species[5] to allow USFWS/CDFW to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System. It will be the responsibility of the monitoring biologist to assure that Identified bird

[5] NCCP/HCP Identified Species that occur, or have potential to occur, on-site include the following: coastal California gnatcatcher, coastal cactus wren, orange-throated whiptail, coastal western whiptail, red-diamond rattlesnake, coast horned lizard, northern harrier, sharp-shinned hawk, prairie falcon, American peregrine falcon, red-shouldered hawk, southern California rufous-crowned sparrow, San Diego desert woodrat, gray fox, and coyote.

species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.

d. Following the completion of initial grading/earth moving activities, all areas of coastal sage scrub habitat to be avoided by construction equipment and personnel will be marked with temporary fencing and other appropriate markers clearly visible to construction personnel. No construction access, parking, or storage of equipment or materials will be permitted within such marked areas.

e. In areas bordering the NCCP Reserve System or Special Linkage/Special Management areas containing significant coastal sage scrub identified in the NCCP/HCP for protection, vehicle/equipment transportation routes and staging areas will be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble will not be deposited on adjacent coastal sage scrub identified in the NCCP/HCP for protection. Pre-construction meetings involving the monitoring biologist, construction supervisors, and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures.

f. Coastal sage scrub identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.

BIO-5: IRWD shall implement the following measure to mitigate indirect impacts to special-status wildlife species:

~~a. Educational signage shall be posted at the entrances of the proposed walking trail to inform the public about the sensitive biological resources in the area and local wildlife in the area (e.g., rattlesnakes, coyotes). Signage would also be posted periodically along the proposed trail to remind public to keep on the trail and out of sensitive habitat areas.~~

~~b. The proposed trail shall only be open during daylight hours (e.g., dawn to dusk).~~

c. A Resource Management Plan (RMP) shall be prepared to outline long-term maintenance and management responsibilities for the preservation of the biological resources on-site (e.g., invasive species management, monitoring access issues, off-trail use, erosion, trash). The RMP should also provide guidance to ensure that all operations and maintenance activities performed on-site must also comply with all applicable requirements of the NCCP/HCP and the preservation of the biological resources on-site. The RMP would also outline monitoring requirements for species populations for federal and state-listed species (i.e., least Bell's vireo and coastal California gnatcatcher).

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The Syphon Reservoir Improvement Project FEIR identified several plant communities that are considered sensitive and found that the Project would temporarily impact up to 0.85 acre of sagebrush scrub (a subtype of CSS) and permanently impact up to 60.6 acres of other sensitive natural communities, including 0.09 acre of arroyo willow thicket and 4.07 acres of black willow thicket which are sensitive riparian communities, 0.77 acre of coyote brush scrub, 0.19 acre of chaparral bushmallow scrub, 0.06 acre of chaparral bushmallow scrub/non-native herbaceous cover, up to 27.22 acres of sagebrush scrub, 0.98 acre of CSS/non-native herbaceous cover, and 28.18 acres of non-native herbaceous cover/CSS. The FEIR

found that impacts to these sensitive natural communities would be potentially significant. Implementation of Mitigation Measure BIO-6 was required to reduce impacts to a less than significant level.

Based on the GIS analysis described above in item a), the revised project included in the 100% design plans would result in temporary impacts to up to 0.10 acre of arroyo willow and black willow thickets that would be restored on-site, 3.01 acres of CSS subtypes (including 2.99 acres of sagebrush scrub, 0.01 acre prickly pear scrub, and 0.01 acre mixed sagebrush scrub / grassland), and 1.96 acre of grassland / scrub ecotone, all of which will be restored to CSS or riparian habitat. The revised project included in the 100% design plans would also permanently impact up to 54.82 acres of other sensitive natural communities, including 0.04 acre of arroyo willow thicket and 4.06 acres of black willow thicket which are sensitive riparian communities, 0.74 acre of coyote brush scrub, 0.19 acre of chaparral bushmallow scrub, up to 25.93 acres of sagebrush scrub, 0.72 acre of CSS/non-native herbaceous cover, and 23.14 acres of non-native herbaceous cover/CSS. Similar to the Syphon Reservoir Improvement Project FEIR, the revised project included in the 100% design plans would result in a potentially significant impact, which would require implementation of Mitigation Measure BIO-6 to reduce impacts to a less than significant level. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measures are required to be implemented under this Addendum No. 3.

> **BIO-6:** IRWD shall implement one, or a combination, of the following measures to mitigate impacts to sensitive natural communities:
>
> a. Use of Incidental Take Credits for NCCP/HCP participating landowners (within the Reserve, or outside of the Reserve) to offset permanent impacts to coastal sage scrub (e.g., California sagebrush scrub, California sagebrush scrub/non-native herbaceous cover, coyote brush scrub, chaparral bushmallow scrub, chaparral bushmallow scrub/non-native herbaceous cover, and non-native herbaceous cover/California sagebrush scrub) at a 1:1 impact-to-mitigation ratio.
>
> b. On- and/or off-site land acquisition and preservation, and/or creation, restoration, and/or enhancement of sensitive natural communities comparable or equivalent to a 1:1 impact-to-mitigation ratio, or as determined acceptable by the USFWS and CDFW.
>
> c. Areas where temporary impacts occur to sensitive natural communities (e.g., California sagebrush scrub) would be returned to pre-project conditions (i.e., pre-project elevation contours and revegetation initiated) within one-year after the construction is completed, and will be monitored for three years, or until a qualified biologist determines that affected natural communities have been restored to equivalent or better condition as compared to pre-project conditions. A revegetation plan would be prepared to re-seed/re-plant the area with locally indigenous native species, and would include performance standards, success criteria, maintenance, and future monitoring.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The Syphon Reservoir Improvement Project FEIR found that there were no waters of the United States on the Syphon Reservoir Improvement Project site because Syphon Reservoir is an intrastate isolated water with no apparent interstate or foreign commerce connection. Thus, jurisdictional features identified are only subject to the jurisdiction of the State (i.e., wetlands and non-wetland waters of the State, and CDFW lakes, streams, and associated vegetation). Impacts related to CDFW jurisdiction are addressed in item b) above. The Syphon Reservoir Improvement Project FEIR described that 26.42 acres of CDFW jurisdictional lakes, streams, and associated vegetation (including 6.62 acres of woody riparian habitat, 5.87 acres of marsh habitat, and 13.93 acres of open water), of which 0.05 acre would be considered a beneficial impact (i.e., replaced with restored riparian habitat) would be impacted by the Syphon Reservoir Improvement Project.

The 100% design plans would not substantially alter that finding, although the impacts have been recalculated and presently identify impacts to 26.25 acres of CDFW jurisdictional lakes, streams, and associated vegetation (including 6.45 acres of woody riparian habitat, 5.87 acres of freshwater marsh, and 13.91 acres of open water). The 100% design also notes that approximately 0.38 acres of these impacts occur in an area that will be restored as riparian habitat on-site and the refinements to the on-site riparian mitigation indicate that approximately 6.24 total acres of woody riparian habitat is proposed to be restored on site. As described in Addendum No. 1, up to 13.14 acres of woody riparian mitigation and more than 10 acres of freshwater marsh habitat is also planned to be established within a parcel at the San Joaquin Marsh and would provide compensatory mitigation to offset these impacts. The Syphon Reservoir Improvement Project would also enlarge the reservoir, which would substantially expand the open water resources on-site. The Syphon Reservoir Improvement Project FEIR determined that the Project would result in a [net] beneficial impact, as it would increase the amount of CDFW jurisdictional riparian habitat. Nevertheless, because the revised project included in the 100% design plans will be altering a substantial area subject to CDFW jurisdiction, IRWD must comply with Mitigation Measure BIO-6 for impacts to sensitive natural communities, and Mitigation Measure BIO-7, to obtain a Streambed Alteration Agreement from CDFW. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measures are required to be implemented under this Addendum No. 3.

Implement **Mitigation Measure BIO-6**.

BIO-7: IRWD shall negotiate and execute a Lake or Streambed Alteration Agreement under Section 1602 of the California Fish and Game Code with CDFW.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The Syphon Reservoir Improvement Project FEIR determined that impacts involving displacement of natural areas could disrupt local movement and displace wildlife within the Syphon Reservoir Improvement Project's footprint, particularly within the on-site riparian habitats. The FEIR also noted that the Project would avoid 144.31 acres within the reservoir property, and concluded that displaced wildlife utilizing upland habitats could disperse to other upland areas on-site, and the impacted areas would not inhibit local or regional movement of wildlife within these avoided areas of the site, although wildlife that is more sensitive to human disturbances and noise may be deterred by the nearby construction activities. The FEIR recognized that, once completed, the enlarged reservoir would provide greater water storage capacity and an expanded open water area for migrating birds and the restored riparian habitat would also be a benefit to migratory species. With consideration of upland and riparian habitat restoration efforts, and preservation of over 140 acres of natural areas on-site, the FEIR concluded that impacts to local movement were not expected to be significant. Thus, impacts on regional and local wildlife movement were considered less than significant, and no mitigation was required.

The revised project included in the 100% design plans include the placement of two sections of chain-link fencing to protect the site from incursions associated with placing two trails on either side of the reservoir to access the system of groundwater monitoring piezometers. The new fencing would potentially hinder medium-sized terrestrial animals from moving freely across the site where the fence sections will be placed, but would help deter trespassers and reduce potential harassment of wildlife. Avian species and small terrestrial animals would not be affected by the new fencing. Furthermore, terrestrial movement would not be precluded, only hindered between the relatively narrow strips of natural land on the reservoir side of the fencing and the broader open space to the southeast or southwest. This effect is not considered to impose any significant or particularly deleterious impact on local or regional wildlife movement. Therefore, the design modifications would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The Syphon Reservoir Improvement Project FEIR analyzed the Syphon Reservoir Improvement Project's potential to conflict with relevant general planning documents of the County of Orange. The County's General Plan's Land Use Element Policy 9, Enhancement of Environment, ensures that all land use activities seek to enhance the physical environment, including the air, water, sound levels, landscape, and plant and animal life, and recognizes the need to improve both the manmade and natural environments. Plant and animal life that may be disrupted by the Syphon Reservoir Improvement Project would be offset through the creation of riparian and upland habitat areas and proposed mitigation, so while these created habitat and mitigation areas may not enhance the physical environment, they would ensure the preservation of biologically equivalent plant and wildlife resources. Thus, the Syphon Reservoir Improvement Project was found to not conflict with this policy. The County's General Plan's Resources Element Policy 1, Wildlife and Vegetation, requires the identification and preservation of the significant

wildlife and vegetation habitats of Orange County. Impacts to special-status wildlife species and sensitive natural communities were analyzed, and mitigation was proposed for impacts that were determined to be potentially significant. Implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, and BIO-6 were found to reduce impacts to a less than significant level.

The revised project included in the 100% design plans would involve similar activities that could conflict with local plans and policies to those discussed in the FEIR. With implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, and BIO-6, impacts would be reduced to a less than significant level. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measures are required to be implemented under this Addendum No. 3.

Implement **Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, and BIO-6**.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Syphon Reservoir Improvement Project FEIR found that the Syphon Reservoir Improvement Project is a permitted use within the NCCP/HCP Reserve System. Compliance with specific conditions required for NCCP/HCP conditionally covered species (i.e., least Bell's vireo) are discussed in item a) above. However, the removal of CSS communities would be considered potentially significant. Implementation of Mitigation Measures BIO-1 and BIO-2 were determined to reduce impacts to a less than significant level. When maintenance of the riparian and upland habitat areas involves vegetation removal (e.g., weeding) and cannot be scheduled outside of nesting season, such work could impact nesting special-status bird species, which could also be potentially significant. Implementation of Mitigation Measure BIO-3 was found to reduce impacts to a less than significant level, and thus impacts related to the Central & Coastal Subregion NCCP/HCP were determined to be less than significant with mitigation incorporated.

The revised project included in the 100% design plans would involve similar activities that could conflict with provisions in the Central & Coastal Subregion NCCP/HCP. With implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3, impacts would be reduced to a less than significant level. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measures are required to be implemented under this Addendum No. 3.

Implement **Mitigation Measures BIO-1, BIO-2, and BIO-3**.

Summary of Potential Effects on Biological Resources

The 100% design modifications would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to biological resources. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162.).

3.5 Cultural Resources

Issues (and Supporting Information Sources):		*Yes*	*No*
V.	**CULTURAL RESOURCES —** Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒
c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

The Syphon Reservoir Improvement Project FEIR identified a total of nine cultural resources within the Syphon Reservoir Improvement Project site. Four of the nine resources are previously recorded prehistoric archaeological sites identified during the records search (CA-ORA-601, -1237, -1246 and -1400). Five of the nine resources were identified during the pedestrian survey and consist of an isolated prehistoric mano (ISO-HC-001), a historic-period archaeological site (identified as a "Latrine Site" with an artifact scatter), and three historic period built environment resources (IRWD-Cottage, Highland Canal/P-30-176748, and the Syphon Reservoir and associated facilities).

Four of the nine resources (CA-ORA-1400, IRWD-Cottage, Highland Canal/P-30-176748, and the Syphon Reservoir and associated facilities) would be impacted by the Syphon Reservoir Improvement Project FEIR but were evaluated and found not eligible for listing in the California Register of Historical Resources (California Register) and therefore do not qualify as historical resources under CEQA. Since these resources do not qualify as historical resources, impacts to them were not considered a significant impact to the environment and no resource-specific mitigation measures were warranted.

Five of the remaining nine resources (CA-ORA-601, -1237, -1246, ISO-HC-001, and the Latrine Site) were assumed to not be impacted by the Syphon Reservoir Improvement Project FEIR and therefore no evaluation of their eligibility for listing in the California Register was warranted. Further, the surface components of CA-ORA-601 and -1246 were not relocated during the pedestrian survey. Lastly, resource ISO-HC-001, as an isolated artifact, is not eligible for the California Register and therefore does not qualify as a historical resource under CEQA.

The Syphon Reservoir Improvement Project FEIR also indicated that the presence of both historic-period and prehistoric archaeological sites within and in the vicinity of the Syphon Reservoir Improvement Project site indicates that the area is sensitive for buried archaeological resources that could be encountered during construction of the Project. The Syphon Reservoir Improvement Project FEIR included Mitigation Measures CR-1 through CR-4, which require procedures for avoidance of two unevaluated resources (CA-

ORA-1237 and the Latrine Site) at the Syphon Reservoir Improvement Project site, construction worker sensitivity training, cultural resources monitoring during construction, and treatment of unanticipated discoveries during construction, which would ensure that impacts associated with the Syphon Reservoir Improvement Project FEIR are reduced to a less than significant level.

The 100% design plans would involve refinements to the project design and implementation methods. The current refinements would include more extensive grading impacts associated with roadway installation, which now would directly impact prehistoric archaeological site CA-ORA-601. No other resource that was previously assumed to not be impacted by the Syphon Reservoir Improvement Project will be impacted by the current refinements. As a result, ESA conducted an *Extended Phase I Archaeological Resources Assessment (Extended Phase I Assessment)* at CA-ORA-601 in order to identify the vertical and horizontal boundaries of the resource and to determine whether it qualifies as a historical resource or a unique archaeological resource under CEQA. As part of this assessment, ESA excavated 15 Shovel Test Probes distributed across the previously mapped location of CA-ORA-601 and immediate vicinity where proposed grading impacts were to occur. The results of the *Extended Phase I Assessment* yielded the identification of three chipped stone artifacts (i.e., flake debitage) and no buried intact archaeological deposit. Since a small number of artifacts were recovered and no intact archaeological deposit was identified (including no temporally diagnostic artifacts), the specific areas of CA-ORA-601 that were excavated by ESA do not yield information important in prehistory (Criterion D of the California Register) and are therefore not eligible for listing in the California Register and therefore do not qualify as a historical resource under CEQA Guidelines Section 15064.5. As a result of this finding, impacts from the revised project included in the 100% design plans to resource CA-ORA-601 are not considered a significant impact on the environment and no resource-specific mitigation measures or further work at the resource are warranted. Nevertheless, in order to minimize impacts to any unanticipated historical resources during construction of the revised project included in the 100% design plans, Syphon Reservoir Improvement Project Mitigation Measures CR-2 through CR-4 would be required to reduce any unanticipated discovery impacts to a less than significant level. As a result, the refinements as part of the 100% design plans would not result in a new significant impact to historical resources or a substantial increase in the severity of the previously identified less than significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measures are required to be implemented under this Addendum No. 3.

> **CR-2: Worker Sensitivity Training.** Prior to the start of construction activities, all construction personnel should be trained to identify the types of cultural resources that may be encountered during project implementation. These include both prehistoric and historic period archaeological resources. In addition to cultural resources recognition, the training should convey procedures to follow in the event of a potential cultural resources discovery, including notification procedures. The training should be provided by the Qualified Archaeologist or an archaeologist working under their supervision.
>
> **CR-3: Construction Monitoring.** An archaeological monitor (working under the direct supervision of the Qualified Archaeologist) shall observe all ground-disturbing activities, including but not limited to brush clearance, vegetation removal, grubbing, grading, and excavation, in undisturbed areas of the project site. In addition, the Qualified Archaeologist, in coordination with IRWD, may reduce or discontinue monitoring if it is determined that the

possibility of encountering buried archaeological deposits is low based on observations of soil stratigraphy or other factors. Archaeological monitoring shall be conducted by an archaeologist familiar with the types of archaeological resources that could be encountered within the project site. The archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of a discovery until the Qualified Archaeologist has evaluated the discovery, consulted with IRWD, and determined appropriate treatment (as prescribed in CR-3). The archaeological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries. After monitoring has been completed, the Qualified Archaeologist shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to IRWD and any Native American groups who request a copy. The Qualified Archaeologist shall submit a copy of the final report to the California Historic Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC).

In addition, prior to the commencement of earthwork activities, IRWD shall provide written notification to the Native American representatives from the Gabrieleno Band of Mission Indians - Kizh Nation indicating the date and time of the commencement of earthwork activities. The representatives from the Gabrieleno Band of Mission Indians - Kizh Nation ("tribal representative") shall be provided reasonable access to the project site in a manner that does not interfere with the earthwork activities. Tribal representatives, at their own expense, and in a manner that does not interfere with earthwork activities, shall be allowed to monitor subsurface ground-disturbing construction activities. The monitoring may consist of either direct observation of the earthwork activities or the examination of the excavated soils prior to disposal for evidence of cultural resources. If any cultural resources are identified during the monitoring and evidence is presented that the discovery proves to be potentially significant under CEQA, as determined by IRWD's consulting Qualified Archaeologist, additional measures such as data recovery excavation, avoidance of the area of the find, documentation, testing, data recovery, reburial, archival review and/or transfer to the appropriate museum or educational institution, or other appropriate actions may be warranted as recommended by IRWD's consulting Qualified Archeologist in consultation with the tribal representative.

CR-4: Protocols for Unanticipated Discoveries. If cultural resources are encountered during project implementation, all activity within 50 feet of the find should cease until the find can be evaluated by the Qualified Archaeologist. If the Qualified Archaeologist determines that the resources may be significant, he or she will notify IRWD and develop an appropriate treatment plan for the resource. IRWD should consult with the Native American monitor or other appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Under CEQA, preservation in place is the preferred manner of mitigating impacts to archaeological sites. In considering any suggested measures proposed by the archaeologist to mitigate impacts to archaeological resources, IRWD will determine whether avoidance is feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures will be instituted, which could include, among other options, detailed documentation, or data recovery excavation. Work may proceed on other parts of the project area while mitigation for cultural resources is being carried out.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

As previously mentioned in item a) above, the Syphon Reservoir Improvement Project FEIR identified a total of nine cultural resources within the Syphon Reservoir Improvement Project site, six of which were

archaeological resources. These resources include four prehistoric archaeological sites, an isolated prehistoric mano, and a historic-period archaeological site consisting of an artifact scatter and foundation remnants. The Syphon Reservoir Improvement Project FEIR also indicated that the presence of both historic-period and prehistoric archaeological sites within and in the vicinity of the Syphon Reservoir Improvement Project site indicates that the area is sensitive for buried archaeological resources that could be encountered during construction of the Project. The Syphon Reservoir Improvement Project FEIR included Mitigation Measures CR-1 through CR-4 (see above), which require procedures for avoidance of two unevaluated resources (CA-ORA-1237 and the Latrine Site) at the Syphon Reservoir Improvement Project site, construction worker sensitivity training, cultural resources monitoring during construction, and treatment of unanticipated discoveries during construction, which would ensure that impacts associated with the Syphon Reservoir Improvement Project FEIR are reduced to a less than significant level.

Since the preparation of the Syphon Reservoir Improvement Project FEIR, IRWD's design contractor prepared the 100% design plans. The current refinements would include more extensive grading impacts associated with roadway installation which would directly impact prehistoric archaeological resource CA-ORA-601. As a result and as discussed above, ESA conducted an *Extended Phase I Assessment* that yielded very few artifacts. As result of the assessment, the areas of resource CA-ORA-601 that were tested by ESA do not qualify as a historical resource or unique archaeological resource under CEQA. As a result of this finding, Project impacts from the revised project included in the 100% design plans to resource CA-ORA-601 are not considered a significant impact on the environment and no resource-specific mitigation measures or further work at the resource are warranted. Nevertheless, in order to minimize impacts to any unanticipated historical resources during construction of the revised project included in the 100% design plans, Syphon Reservoir Improvement Project Mitigation Measures CR-2 through CR-4 would be required to reduce any unanticipated discovery impacts to a less than significant level. As a result, the refinements as part of the 100% design plans would not result in a new significant impact to archaeological resources or a substantial increase in the severity of the previously identified less than significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

The Syphon Reservoir Improvement Project FEIR identified no known human remains within the Syphon Reservoir Improvement Project site. The Syphon Reservoir Improvement Project FEIR determined that the potential to disturb human remains is low and that state laws dictate appropriate treatment of any unearthed human remains. The existing laws include California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98. As a result, the Syphon Reservoir Improvement Project FEIR concluded a less than significant impact to human remains.

Since the preparation of the Syphon Reservoir Improvement Project FEIR, IRWD's design contractor prepared the 100% design plans. The revised project included in the 100% design plans would not impact known human remains within the Syphon Reservoir Improvement Project site. With adherence to existing laws and regulations related to discovery of human remains, impacts would be less than significant and no mitigation would be required. The refinements as part of the 100% design plans would not result in a new significant impact to human remains or a substantial increase in the severity of the previously identified less than significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Cultural Resources

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to cultural resources. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162).

References

ESA, 2025. *Extended Phase I Archaeological Resources Assessment (Extended Phase I Assessment) for Resource CA-ORA-601*. Prepared September 2025. Confidential.

3.6 Energy

Issues (and Supporting Information Sources):	*Yes*	*No*
VI. ENERGY — Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☒
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would result in energy demand from the use of construction equipment for a temporary period of approximately 41 months. As discussed in the Syphon Reservoir Improvement Project FEIR, energy demand from the use of transportation fuels from construction activities would be generated by the operation of vehicles and equipment used for various construction activities, such as excavation and grading. Electricity would be consumed to power the construction trailers and exterior uses such as lights, conveyance of water for dust control, and any electrically-powered construction equipment. Construction-related energy and transportation fuel demand from construction equipment would vary depending on factors such as the type and number of equipment and the duration that each equipment is powered on and used. Construction equipment and trucks would be required to comply with applicable provisions of regulations to improve fuel efficiency. Therefore, construction of the Syphon Reservoir Improvement Project was found to not result in the wasteful, inefficient, or unnecessary consumption of transportation fuel resources, and impacts would be less than significant.

The Syphon Reservoir Improvement Project FEIR determined that the operational activities associated with the Syphon Reservoir Improvement Project would not increase the average daily traffic volumes along the major thoroughfares within the project vicinity. During operation of the Syphon Reservoir Improvement Project, electricity would be consumed for the operation of the Treatment Facility, which includes electricity for building lighting and electric-powered pumps and other equipment. Given the minimal energy consumption of the Syphon Reservoir Improvement Project, anticipated energy savings related to a reduction in imported water, and design with energy efficient lighting and equipment, operation of the Syphon Reservoir Improvement Project would not result in a substantial increase in energy consumption and would not result in the wasteful, inefficient, or unnecessary consumption of electricity resources; impacts were found to be less than significant.

While the 100% design plans would include modifications to project design or implementation methods, they would not significantly increase energy demands. While the revised project included in 100% design plans would increase the total amount of soil import from approximately 100,000 cubic yards as analyzed

in the FEIR to approximately 200,000 cubic yards and the total duration of construction from approximately 41 months as analyzed in the FEIR to approximately 60 months, maximum daily construction equipment usage and truck trips would be the same as analyzed in the FEIR (66 daily haul trips). Thus, the revised project included in 100% design plans would not generate additional peak or maximum daily energy demand. The increased duration in construction would require additional total energy demand (i.e., fuel demand); however, construction would still remain a temporary activity and end once construction is completed. As discussed in Chapter 2, *Project Description*, and listed in Table 1, above, operation of the modifications in the revised project included in 100% design plans requires a dam control building that will house air compressors for pneumatically operated valves, lake aerations system, and other dam related equipment. The Syphon Reservoir Improvement Project FEIR assumed an electricity demand for dam control equipment of approximately 1,300,000 kilowatt-hours (kWh) per year. The revised project included in the 100% design plans includes information on equipment power specifications that was not available and could not have been known at the time the FEIR was certified. Based on this information, the revised project included in 100% design plans would require electricity demand for the dam control equipment of approximately 5,983,000 kWh per year. Electricity would be provided by SCE, which forecasts electricity consumption in 2030 of approximately 120,169 gigawatt-hours (GWh) per year (120,169,000,000 kWh per year). The revised project would represent approximately 0.005 percent of the forecasted SCE electricity consumption, which represents a minimal fraction, similar to the determination in the Syphon Reservoir Improvement Project FEIR. Furthermore, as discussed in the FEIR, approximately 1,890 kWh per acre foot is required for water supply and conveyance in the IRWD service area due to importing water from outside of the region from the SWP and Colorado River (IRWD 2019). Without the Syphon Reservoir Improvement Project, approximately 4,500 AF of untreated water would be imported through MWD, resulting in approximately 8,505,000 kWh per year of electricity consumption district-wide. By providing IRWD customers with recycled water that is stored by the Syphon Reservoir Improvement Project, electricity demand for water supply and conveyance of imported water would be reduced. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The Syphon Reservoir Improvement Project FEIR determined that the Syphon Reservoir Improvement Project would be designed in a manner consistent with relevant energy efficiency plans, such as Integrated Energy Policy Report and the California Building Standards Code, designed to encourage development that results in the efficient use of water resources. The Syphon Reservoir Improvement Project would increase the capacity of the Syphon Reservoir, thereby providing a local, consistent supply of recycled water for the IRWD service area. This would reduce the energy consumption needed to provide water to IRWD's recycled water customers. Replacing imported water with recycled water stored under the Syphon Reservoir Improvement Project would reduce the electricity used for water supply and conveyance by approximately 3,699,000 kilowatt-hours annually. The Syphon Reservoir Improvement Project FEIR discussed the CARB 2017 Climate Change Scoping Plan, which provided the State strategy for reducing greenhouse gas (GHG) emissions at the time of the Syphon Reservoir Improvement Project FEIR and includes various energy efficiency strategies to achieve the GHG reduction goals, including recognition of the nexus between water and energy consumption. The water-energy nexus provides opportunities for reducing energy demand and reducing GHG emissions. The 2017 Climate Change

Scoping Plan, states that "recycled water has the potential to reduce GHGs if it replaces, and not merely serves as an alternative to, an existing, higher-carbon water supply." Given the water-energy nexus, this means recycled water has the potential to reduce energy consumption if it replaces more energy-intensive water supplies. Thus, the Syphon Reservoir Improvement Project was found to be consistent with the 2017 Climate Change Scoping Plan's strategy to reduce water-related energy consumption. As a result, the Syphon Reservoir Improvement Project would not conflict with or obstruct a State or local plan for energy efficiency, and impacts would be less than significant.

As discussed above, construction of the revised project included in 100% design plans would generate additional energy demand during construction that would require additional total energy demand (i.e., fuel demand); however, construction would remain a temporary activity and end once construction is completed. Operation of the revised project included in the 100% design plans would not substantially impact available energy supplies as the revised project would represent a minimal fraction of the forecasted SCE electricity consumption, consistent with the determination in the Syphon Reservoir Improvement Project FEIR. Further, the revised project included in the 100% design plans would result in water energy savings as analyzed and disclosed in the Syphon Reservoir Improvement Project FEIR by providing IRWD customers with recycled water that reduces the supply and conveyance of imported water and associated energy consumption. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Energy

The changes proposed by the 100% design plans would not result new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to energy. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162.).

References

CARB. 2017. *California's 2017 Climate Change Scoping Plan: The strategy for achieving California's 2030 greenhouse gas target, November.* Available at www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

CEC. 2023. *CED 2023 Baseline Forecast – SCE, California Energy Demand Forecast, 2023 - 2040 Baseline Forecast*. Available at https://efiling.energy.ca.gov/GetDocument.aspx?tn=254247&DocumentContentId=89615.

IRWD. 2019. *Embedded Energy Plan Final Report, December.* Available at https://www.irwd.com/images/pdf/doing-business/energyprograms/1.%20Embedded%20Energy%20Plan%20-%20Final%20Report.pdf.

3.7 Geology and Soils

Issues (and Supporting Information Sources):	*Yes*	*No*
VII. GEOLOGY AND SOILS — Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:		
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☒
ii) Strong seismic ground shaking?	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☒
iv) Landslides?	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a.i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

a.ii) Strong seismic ground shaking?

a.iii) Seismic related ground failure including liquefaction?

a.iv) Landslides?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would not be located on an active earthquake fault but would be located within a seismically active region. The Syphon Reservoir Improvement Project FEIR concluded that the Syphon Reservoir Improvement Project could be subject to seismic shaking and seismic-induced ground failures, such as liquefaction, and landslides. However, the Syphon Reservoir Improvement Project FEIR further explained that the DSOD would require a final geotechnical investigation to be prepared that would identify

geotechnical issues, including seismic-related issues, and provide recommendations to address geotechnical issues, if any. The preparation of a geotechnical investigation and implementation of geotechnical recommendations would ensure impacts would be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods, including modification of methods of constructing underground features, such as the installation of piezometers and installation of the spillway pipeline underground. The borings would remove small amounts of subsurface material from the bore holes and the piezometers would be constructed by installation of a well screen at the bottom of the excavated borehole, which would be surrounded by a sand filter. A solid PVC pipe would be installed in the remaining portion of the borehole which would be filled with bentonite grout. The spillway pipeline would be installed via jack and bore and placed into 60-inch pipeline. The implementation of any applicable geotechnical recommendations would ensure impacts are less than significant. In addition, the spillway pipeline would involve less operational and maintenance activity than what was analyzed in the Syphon Reservoir Improvement Project FEIR. As a result, there would be no change in activities that could increase the severity of impacts related to fault rupture, seismic ground shaking, liquefaction, or landslides, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Result in substantial soil erosion or the loss of topsoil?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project site includes slopes that could be susceptible to erosion. Some of the local geologic units are rated as generally having very poor slope stability characteristics and are described as landslide-prone (and consequently also erosion-prone) units. Several existing potential landslide areas are present. However, the Syphon Reservoir Improvement Project FEIR further explained that a final geotechnical report would be prepared that would identify geotechnical issues, including geologic units susceptible to erosion, and would provide recommendations to address such geotechnical issues. The preparation of a geotechnical investigation and implementation of geotechnical recommendations would ensure impacts would be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. While the refinements would modify methods of constructing onsite features, such as additional access road grading, grout injection holes for seepage control, installation of piezometer borings, digging post holes to install the chain-link fence, and installation of the spillway pipeline underground, there would be no substantial increase in soil erosion or loss of topsoil beyond what was identified in the Syphon Reservoir Improvement Project FEIR, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project site includes geologic units and slopes that could be susceptible to landslides. In addition, the

construction of the dam could be susceptible to subsidence due to settlement of the dam materials. However, the Syphon Reservoir Improvement Project FEIR further explained that a final geotechnical investigation would be prepared that would identify geotechnical issues, including landslides and settlement, and provide recommendations to address such geotechnical issues. The preparation of a geotechnical investigation and implementation of geotechnical recommendations would ensure impacts would be less than significant.

While the 100% design plans would involve refinements to the project design and implementation methods, these modifications would not result in an increase in severity of impacts relative to unstable geologic units or soil compared with the conclusions in the Syphon Reservoir Improvement Project FEIR, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

d) Be located on expansive soil creating substantial direct or indirect risks to life or property?

The Syphon Reservoir Improvement Project FEIR identified that the only expansive soils identified for the Syphon Reservoir Improvement Project would be lake bottom materials. However, these materials would not be used for construction of the dam and would remain at the bottom of the lake, and impacts would be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. The refinements would not change the fact that lake bottom expansive materials would not be used for construction of the dam; in fact, fewer on-site materials would be reused than originally anticipated which would require an additional 100,000 cubic yards of material to be imported to the site. As a result, there would be no increase in the severity of impacts related to expansive soil, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would not use septic tanks or other on-site wastewater disposal systems. Therefore, there would be no impact related to the adequacy of soils to support such systems.

The 100% design plans would not involve use of septic tanks or other on-site wastewater disposal systems. As a result, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Syphon Reservoir Improvement Project FEIR identified no known paleontological resources within the Syphon Reservoir Improvement Project site; however, several geologic units have been identified at

the site that are conducive to retaining paleontological resources at depth during construction. The identification of geologic units at the Syphon Reservoir Improvement Project site that are conducive to retaining paleontological resources indicates that the area is sensitive for buried paleontological resources that could be encountered during construction activities. The Syphon Reservoir Improvement Project FEIR included Mitigation Measures GEO-1 through GEO-4, which require procedures for retaining a qualified paleontologist, construction worker sensitivity training, paleontological resources monitoring during construction, and treatment of unanticipated discoveries during construction, which would ensure that impacts associated with the Syphon Reservoir Improvement Project FEIR are reduced to a less than significant level.

The 100% design plans would involve refinements to the project design and implementation methods located in the same area previously analyzed in the Syphon Reservoir Improvement Project FEIR. These areas include the same geologic units that were identified in the Syphon Reservoir Improvement Project FEIR. These geologic units have a moderate to high paleontological sensitivity and excavation in any of these formations may expose significant vertebrate fossils, and impacts to such fossils could constitute a significant impact on the environment. Implementation of Mitigation Measures GEO-1 through GEO-4 previously identified in the Syphon Reservoir Improvement Project FEIR would ensure that impacts to paleontological resources are reduced to less than significant level. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact to paleontological resources or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measures are required to be implemented under this Addendum No. 3.

> **GEO-1: Appoint a Qualified Paleontologist.** A qualified paleontologist meeting the Society of Vertebrate Paleontology (SVP) Standards (SVP 2010) (Qualified Paleontologist) shall be retained prior to the start of ground disturbing activities. The Qualified Paleontologist shall provide technical and compliance oversight of all work as it relates to paleontological resources, shall attend the project kick-off meeting and project progress meetings on a regular basis, and shall report to the site in the event potential paleontological resources are encountered.
>
> **GEO-2: Worker Sensitivity Training.** The Qualified Paleontologist shall conduct construction worker paleontological resources sensitivity training prior to the start of ground disturbing activities (including vegetation removal, pavement removal, etc.). This can occur in coordination with Cultural Resources Worker Sensitivity Training (Mitigation Measure CR-1). In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the project site and the procedures to be followed if they are found. Documentation shall be retained demonstrating that all construction personnel attended the training.
>
> **GEO-3: Paleontological Monitoring.** Paleontological resources monitoring shall be conducted for ground disturbing activities occurring in previously undisturbed sediments with high paleontological sensitivity, including any areas containing the Silverado Formation or Sespe/Vaqueros Formation, very old Quaternary Alluvium, and deeper layers of younger Quaternary Alluvium (which overly sensitive older Quaternary Alluvium). Ground disturbing activities include vegetation removal, grading, excavation, pavement removal, roadway

improvements, or other similar activities within these sensitive formations. For undisturbed sediments mapped as the Silverado Formation, Sespe/Vaqueros Formation, or very old Quaternary Alluvium, monitoring of all ground disturbance is initially required. A depth of 5 feet bgs is established as the depth at which high sensitivity and paleontological monitoring should begin in the younger Quaternary Alluvium. The Qualified Paleontologist shall evaluate ground disturbing activities on an intermittent basis and consult with IRWD on whether the depth or frequency of required monitoring should be revised or may cease. Paleontological resources monitoring shall be performed by a qualified paleontological monitor (meeting the standards of the SVP 2010) under the direction of the Qualified Paleontologist, and in conjunction with IRWD. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens. Any significant fossils collected during project-related excavations shall be salvaged and prepared to the point of identification following the standards of the SVP (2010). Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Paleontologist shall prepare a final monitoring and mitigation report to document the results of the monitoring effort. Any salvaged fossils shall be offered for donation to an accredited repository with a scientific interest in the materials. If no accredited repository accepts the donation, then the fossils may be donated to a local museum, historical society, school, or other institution for educational purposes.

GEO-4: Fossil Discovery. If personnel or workers discover any potential fossils during project implementation, regardless of the depth of work or location, work at the discovery location shall cease in a 50-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery, consulted with IRWD, and made recommendations as to the appropriate treatment. If the find is deemed significant, the qualified paleontologist shall salvage the resource following the standards of the SVP (2010). Any salvaged fossils shall be offered for donation to an accredited repository with a scientific interest in the materials. If no accredited repository accepts the donation, then the fossils may be donated to a local museum, historical society, school, or other institution for educational purposes.

Summary of Potential Effects on Geology and Soils

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to geology and soils. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162.).

3.8 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	*Yes*	*No*
VIII. GREENHOUSE GAS EMISSIONS — Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would generate GHG emissions from vehicle trips generated by construction workers, vendor trucks, and haul trucks traveling to and from the Syphon Reservoir Improvement Project site and the use of construction equipment. Operation of the Syphon Reservoir Improvement Project was found to not result in new or increased use of motor vehicles, aside from periodic maintenance vehicles. The Syphon Reservoir Improvement Project was found to result in the additional electricity demand to power equipment, which would result in electricity-related GHG emissions. The objectives of the Syphon Reservoir Improvement Project include reducing the need to purchase supplemental imported untreated water from the MWD by storing recycled water that is already produced. Conveying imported untreated water from the State Water Project (SWP) and the Colorado River to Orange County requires energy for pumping. Replacing imported water with locally generated recycled water reduces the overall energy associated with imported water because there would be less energy needed for conveyance. This reduction in energy would result in district-wide energy savings. The Syphon Reservoir Improvement Project FEIR determined that the Syphon Reservoir Improvement Project's annual GHG emissions would not exceed the threshold of significance. Therefore, impacts with respect to the generation of GHGs were found to be less than significant.

The revised project included in the 100% design plans would require the use of generally similar types of construction equipment as analyzed in the Syphon Reservoir Improvement Project FEIR. However, the duration of construction and amount of fill required for the dam replacement would be increased compared to the analysis in the Syphon Reservoir Improvement Project FEIR. The 100% design plans would increase the duration of construction from approximately 41 months to 60 months and would increase the volume of fill imported from approximately 100,000 cubic yards to 200,000 cubic yards. The number of daily construction equipment and trucks would be the same as analysis in the Syphon Reservoir Improvement Project FEIR (66 daily haul trips) but the number of construction work days would be increased to accommodate the increased fill import and associated construction activities.

Similar to the analysis included in the Syphon Reservoir Improvement Project, the revised project reflected in the 100% design plans would use limited electricity during construction. Electricity for the temporary construction office would be accessed from the existing electrical grid via temporary connections to provide temporary power and would be disconnected when construction activities cease. Construction equipment and trucks would be required to comply with applicable regulations to improve fuel efficiency. Furthermore, trucks would need to comply with the CARB ATCM to limit heavy-duty diesel motor vehicle idling to 5 minutes or less at any given location.

As discussed in Chapter 2, *Project Description*, and listed in Table 1, above, operation of the modifications in the revised project included in 100% design plans requires a dam control building that will house air compressors for pneumatically operated valves, lake aerations system, and other dam related equipment. The FEIR assumed an electricity demand for dam control equipment of approximately 1,300,000 kilowatt-hours (kWh) per year, with a net increase over existing conditions of approximately 1,082,727 kWh per year. The revised project included in 100% design plans includes information on equipment power specifications that was not available and could not have been known at the time of the FEIR as specific equipment makes and models could not be determined from the incomplete design plans at the time of the FEIR. Based on this information, the revised project included in 100% design plans would require electricity demand for the dam control equipment of approximately 5,983,000 kWh per year, with a net increase over existing conditions of approximately 5,765,727 kWh per year.

GHG emissions from construction and operation of the revised project included in the 100% design plans were estimated using the emissions estimated in the Syphon Reservoir Improvement Project FEIR with construction emissions scaled from the emissions modeling to account for the increased number of days for construction and hauling. The operational GHG emissions associated with electricity based on the revised electricity consumption for the revised project included in the 100% design plans is estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1. **Table 7** shows the annual GHG emissions from the revised project included in the 100% design plans and the off-site mitigation. As shown, annual emissions, including the scaled amortized construction emissions and revised operational GHG emissions, would not exceed the significance threshold. Thus, the refinements as part of the 100% design plans would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

The revised project included in the 100% design plans would result in less than significant impacts with respect to GHG emissions and no mitigation would be required. As a result, refinements as part of the 100% design plans would not result in a significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

TABLE 7
ANNUAL OPERATIONAL GHG EMISSIONS – SYPHON RESERVOIR IMPROVEMENT PROJECT AND 100% DESIGN PLANS

Source	$MTCO_2e$
SRIP FEIR with 100% Design Plans	
SRIP Amortized Construction Emissions [a]	467
SRIP Operational Emissions (See SRIP FEIR and supplemental energy modeling for Addendum No. 3) [b]	691
District-wide Energy Savings (See SRIP FEIR)	(535)
Subtotal Annual SRIP Emissions	*623*
SRIP Off-Site Mitigation (See Addendum No. 1)	
Subtotal Annual SRIP Off-Site Mitigation Emissions	*57*
Total Net Annual SRIP with 100% Design Plans Emissions	680
Screening Level	3,000
Exceed Screening Level?	No

Note:

a. Construction emissions are scaled based on amortized construction GHG emissions of 319 MTCO2e in the SRIP FEIR and scaled based on a ratio of 60 months to 41 months, which represents the increase in construction duration.
b. Table 3.7-3 of the SRIP FEIR included "Energy" source annual operational GHG emissions of approximately 157 $MTCO_2e$ based on the net increase in energy from dam control equipment. The revised project included in the 100% design plans would result in "Energy" source annual operational GHG emissions of approximately 687 $MTCO_2e$ based on the net increase in energy from dam control equipment and SCE GHG intensity factors for year 2030, which is an increase of approximately 530 $MTCO_2e$.

Source: ESA, 2020; 2023; 2025.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases

The Syphon Reservoir Improvement Project FEIR determined that the Syphon Reservoir Improvement Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. The objectives of the Syphon Reservoir Improvement Project include reducing the need to purchase supplemental imported untreated water from MWD by storing recycled water that is already produced. Conveying imported untreated water from the SWP and the Colorado River to Orange County requires a tremendous amount of energy for pumping. Replacing imported water with locally generated recycled water reduces the overall energy associated with imported water because there would be less energy needed for conveyance. By providing IRWD customers with recycled water stored under the Syphon Reservoir Improvement Project, electricity used for water supply and conveyance from imported water would be offset by recycled water, thus reducing district-wide GHG emissions. The CARB 2017 Climate Change Scoping Plan, the State's plan to reduce GHG emissions at the time of the Syphon Reservoir Improvement Project FEIR, recognizes the nexus between water and energy consumption. The water-energy nexus provides opportunities for reducing energy demand and reducing emissions of GHGs. The 2017 Climate Change Scoping Plan states that "recycled water has the potential to reduce GHGs if it replaces, and not merely serves as an alternative to, an existing, higher-carbon water supply." Thus, the Syphon Reservoir Improvement Project would be consistent with and would not conflict with the Scoping Plan's strategy to reduce water-related GHG emissions. The Syphon Reservoir Improvement Project would also not result in employment growth in excess of regional projections by the Southern California Association of Governments. Therefore, the Syphon Reservoir

Improvement Project was found to not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs, and impacts would be less than significant.

In December 2022, CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan), which outlines the strategies the state will implement to achieve carbon neutrality by reducing GHGs to meet the anthropogenic target and by expanding actions to capture and store carbon through the state's natural and working lands and using a variety of mechanical approaches. The 2022 Scoping Plan includes the Scoping Plan Scenario, which "builds on and integrates efforts already underway to reduce the state's GHG, criteria pollutant, and toxic air contaminant emissions by identifying the clean technologies and fuels that should be phased in as the state transitions away from combustion of fossil fuels." (CARB 2022). Implementation of the revised project included in the 100% design plans would be consistent with the 2022 Scoping Plan and would contribute to the Syphon Reservoir Improvement Project's water and energy conservation. The revised project included in the 100% design plans would result in less than significant impacts with respect to conflicts with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs during construction or operation and no mitigation would be required. As a result, the refinements as part of the 100% design plans would not result in a significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Greenhouse Gas Emissions

The refinements as part of the 100% design plans would not result in new significant environmental effects, or result in a substantial increase in the severity of previously identified significant effects, with respect to greenhouse gas emissions. No further environmental review is required. (Public Resources Code § 21166; CEQA Guidelines § 15162.).

References

CARB. 2017. *California's 2017 Climate Change Scoping Plan: The strategy for achieving California's 2030 greenhouse gas target, November.* Available at www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

CARB, 2022. *2022 Scoping Plan for Achieving Carbon Neutrality*. November 16, 2022. Available at https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf.

3.9 Hazards and Hazardous Materials

Issues (and Supporting Information Sources):		*Yes*	*No*
IX.	**HAZARDS AND HAZARDOUS MATERIALS —** Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☒
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a, b) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The Syphon Reservoir Improvement Project FEIR identified that construction equipment and materials may include fuels and chemicals commonly used in construction. These chemicals would be stored and used in accordance with all applicable laws and regulations. In addition, the construction contractor would be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) for construction activities in compliance with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit requirements. The SWPPP would list the hazardous materials proposed for use during construction; describe spill prevention measures, equipment inspections, equipment and fuel storage; outline protocols for responding immediately to spills; and describe best management practices for controlling site runoff. Finally, contractors would be required to prepare and implement Hazardous Materials Business Plans that would require that hazardous materials used for construction would be used properly and stored in appropriate containers with secondary containment to contain a potential release. During operation, sodium bisulfite would be used for water dechlorination, and sodium hypochlorite would be used for water treatment. As required by the State's Hazardous Materials Management Program, IRWD, as the operator of the proposed facility, would be required to prepare and submit a Hazardous

Materials Business Plan that would be required to include information on hazardous material handling and storage, including site layout, storage in appropriate containers with secondary containment to contain a potential release, and emergency response and notification procedures in the event of a spill or release. Compliance with laws, regulations, and manufacturers specifications would ensure impacts would be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods, which would be subject to all of the applicable laws, regulations, and permit requirements required within the Syphon Reservoir Improvement Project FEIR. There would be no new construction or operational activities that would result in a significant increase in the use of hazardous materials or create a significant hazard to the public or the environment, and no mitigation would be required. As a result, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The Syphon Reservoir Improvement Project FEIR identified that transport of hazardous materials during construction and operation of the Syphon Reservoir Improvement Project could use haul routes that pass by schools. As described under items a) and b) above, construction and operation activities would be required to comply with numerous hazardous materials regulations designed to ensure that hazardous materials are transported, used, stored, and disposed of in a safe manner to protect worker safety and to reduce the potential for a release of construction-related fuels or other hazardous materials into the environment, including in proximity to schools. The required compliance with the numerous laws and regulations that govern the transportation, use, handling, and disposal of hazardous materials during construction and operation of the Syphon Reservoir Improvement Project would ensure the potential risks to schools related to emitting and handling hazardous substances remain less than significant.

The 100% design plans would involve refinements to the project design and implementation methods, which would be subject to all of the applicable laws, regulations, and permit requirements required within the Syphon Reservoir Improvement Project FEIR. There would be no new construction or operational activities that would result in a significant increase in the transportation or handling of hazardous materials or substances near schools, and no mitigation would be required. As a result, the change in the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The Syphon Reservoir Improvement Project is not included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 (Cortese List). The 100% design plans would involve refinements to the project design and implementation methods that would be located within the Syphon Reservoir Improvement Project site. Therefore, refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR .

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The Syphon Reservoir Improvement Project is located outside of the Airport Planning Areas for the operational airports in Orange County; therefore, there would be no impact.

The 100% design plans would involve refinements to the project design and implementation methods that would be located within the Syphon Reservoir Improvement Project site and outside of an airport impact area. The refinements as part of the 100% design would not introduce new project components that would result in a safety hazard in proximity to an airport and no impact would occur. As a result, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project site is bounded by two evacuation routes: Portola Parkway to the west and SR-133 to the southeast. The Syphon Reservoir Improvement Project would modify the existing intersection and associated traffic lights to allow construction access through the intersection directly into the Syphon Reservoir Improvement Project site. The intersection modification would not involve closure of any roadways; however, temporary lane closures could be required, for example to allow for restriping of lanes or creating the curb cut and entrance to the proposed access road. However, to ensure that impacts related to the circulation system do not occur as a result of the Syphon Reservoir Improvement Project, IRWD would implement Mitigation Measure TRA-1, which would require the preparation and implementation of a Traffic Control Plan. The Traffic Control Plan would include, but would not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails during construction to guide motorists, bicyclists, and pedestrians safely through the proposed construction area and allow for adequate emergency access and circulation to the satisfaction of the City of Irvine. Therefore, with implementation of Mitigation Measure TRA-1, impacts to the circulation system during the initial intersection improvement phase of the Syphon Reservoir Improvement Project would be reduced to a less than significant level, and project construction would not impair or physically interfere with emergency response teams or an evacuation plan. Operation of the Syphon Reservoir Improvement Project would be substantially similar to current conditions respective to emergency response and evacuation. No operation-related activities would occur within surrounding rights-of-way or along evacuation routes.

IRWD completed the intersection improvements portion of the project in 2025 for which Mitigation Measure TRA-1 was required and implemented. The 100% design plans would involve refinements to the project design and implementation methods. All 100% design refinements would be located on the project site and not on public rights-of-ways. There would be no new construction or operational activities that would impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, Mitigation Measure TRA-1 would not be required. As a result, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial

increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project is located within a moderate fire hazard severity zone (FHSZ) and is adjacent to areas mapped as a Very High FHSZ. The Syphon Reservoir Improvement Project includes slopes surrounding the existing reservoir that are susceptible to prevailing winds. Brush and grassland habitats within the Syphon Reservoir Improvement Project site are highly flammable. The primary fire hazards from construction of the Syphon Reservoir Improvement Project would involve the use of vehicles and equipment. Heat or sparks from construction vehicles and equipment could ignite dry vegetation and cause a fire. Syphon Reservoir Improvement Project construction could increase the risk of exposure of people or structures to significant loss, injury, or death involving wildland fires, which would result in a potentially significant impact. However, all personnel on the Syphon Reservoir Improvement Project site would have to comply with Public Resources Code Sections 4427, 4428, 4431, and 4442, which include regulations relating to the handling of combustible fuels and equipment that can exacerbate fire risks. During construction, strict adherence to Public Resources Code regulations would ensure that contractors are responsible for all monitoring and safety measures ensuring that any risk to exacerbating wildfires would be reduced. Additionally, all construction must comply with fire protection and prevention requirements specified by the California Code of Regulations and California Division of Occupational Safety and Health. This includes various measures such as easy accessibility of firefighting equipment, proper storage of combustible liquids, no smoking in service and refueling areas, and worker training for firefighter extinguisher use. Furthermore, implementation of Mitigation Measure WDF-1 would be required to ensure fire hazard reduction measures are implemented during Syphon Reservoir Improvement Project activities to further reduce the potential for wildfire impacts on project workers. As a result, the potential impact would be reduced to a less than significant level with mitigation.

In 2024, the wildland fire designation changed at the Syphon Reservoir site to Very High FHSZ (CalFire 2024). The 100% design plans would involve refinements to the project design and implementation methods. Particularly, a new aboveground dam control building would be constructed near the inlet/outlet works to house air compressors and other dam-related equipment. One of the design modifications includes fuel reduction/modification provisions which would thin brush around the proposed dam control building. All other 100% design modifications would involve similar construction and operational methods previously analyzed. Similar to the analysis conducted in the Syphon Reservoir Improvement Project FEIR, impacts to people or structures involving wildland fire would be potentially significant. The refinements as part of the Project would be subject to all applicable laws, regulations, monitoring and safety measures, and would require implementation of Mitigation Measure WDF-1 as identified in the Syphon Reservoir Improvement Project FEIR, which would be required to ensure fire hazard reduction measures are implemented during Project activities to further reduce the potential for wildfire impacts on project workers. Implementation of Mitigation Measure WDF-1 previously identified in the Syphon Reservoir Improvement Project FEIR would ensure that impacts related to exposing people or structures to significant risk of loss, injury, or death involving wildland fires are reduced to less than significant level. Therefore, the refinements as part of the 100% design plans would not result in a new significant

impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measure is required to be implemented under this Addendum No. 3.

> **WDF-1: Fire Hazard Reduction Measures.** During project implementation, IRWD shall require all spark arrestors on construction and maintenance equipment to be in good working order. Contractors shall require all vehicles and crews to have access to functional fire extinguishers at all times.

Summary of Potential Effects on Hazards and Hazardous Materials

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to hazards and hazardous materials. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162).

References

Cal Fire, 2024. Fire Hazards Severity Zone Maps. https://experience.arcgis.com/experience/5065c998b4b0462f9ec3c6c226c610a9. Accessed September 5, 2025.

3.10 Hydrology and Water Quality

Issues (and Supporting Information Sources):		*Yes*	*No Impact*
X.	**HYDROLOGY AND WATER QUALITY —** Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☒
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:		
	i) result in substantial erosion or siltation on- or off-site;	☐	☒
	ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☒
	iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☒
	iv) impede or redirect flood flows?	☐	☒
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☒
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would include construction of access roads, clearing of vegetation, and other ground disturbing activities to expand the reservoir and construct the proposed dam. These construction-related activities would result in large stockpiles of soils and would require the use of hazardous materials (e.g., fuels, oil, lubricants for equipment), both of which could be mobilized and transported off-site, potentially degrading the water quality of nearby surface waters. However, the Syphon Reservoir Improvement Project would be required to obtain coverage under the NPDES Construction General Permit, which would require the preparation and implementation of a SWPPP. The SWPPP would describe best management practices such as settlement basins, silt fences, and straw wattles to prevent sediment and other pollutants from leaving the work site and entering waterways. With compliance with the Construction General Permit, impacts relative to water quality during construction would be less than significant.

For operation, the Syphon Reservoir Improvement Project would include a seepage control system to prevent erosion as required by the DSOD, and various best management practices required by the Municipal Separate Storm Sewer System (MS4; i.e., regional stormwater permit) and Drainage Area Management Plan (DAMP) to manage outflow from the reservoir and prevent erosion of the dam, as required by both the DSOD and the RWQCB. IRWD is also preparing a Water Quality Management Plan (WQMP) which identifies post-construction BMPs to be implemented as part of the Syphon Reservoir Improvement Project. With compliance with the existing regulations, impacts relative to water quality during operations would be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. The particular refinements listed in Table 1 that may result in potential impacts to hydrology and water quality during construction are a new temporary groundwater treatment system, modifications to access road construction, and other activities that could result in ground-disturbance. Groundwater testing has indicated that additional treatment is needed before discharge of dewatered groundwater to storm drain to comply with RWQCB requirements. The 100% design includes construction of a new temporary skid-mounted treatment system near the toe of the dam. The treatment system will discharge to the storm drain in the event the dewatered ground water is unable to be re-used onsite and the dewatering rate exceeds the available capacity of the sewer system. If the treatment system is used, backwash or concentrate would be routed to the sewer for treatment at IRWD's Michelson Water Recycling Plant (MWRP). The treatment system would be constructed onsite and removed upon completion of construction. The discharge of any backwash or concentrate into the sewer would not result in a significant change in the Total Dissolved Solids concentration of the recycled water produced at IRWD's MWRP. As a result, the discharge will have no impact on the beneficial uses of recycled water or on IRWD's ability to comply with MWRP discharge permit requirements. The additional sediment-generating activity added as part of the 100% design modifications would be required to obtain coverage under the NPDES Construction General Permit as originally indicated in the Syphon Reservoir Improvement Project FEIR, which would require the preparation and implementation of a SWPPP. One particular 100% design modification, the changes to the spillway design, would result in jack and bore technology instead of open cut construction methods, which would reduce the amount of soil movement and potential erosion onsite. The seepage control system is modified in the 100% design to include a grout curtain. The improved design would enhance dam safety, maintain DSOD requirements to prevent erosion, and manage discharge. No changes to water quality would occur. There would be no new construction or operational activities that would violate any water quality standards or waste discharge requirements, and no mitigation would be required. As a result, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would include temporarily draining the reservoir, resulting in a temporary decrease in groundwater infiltration during this time. Impacts associated with construction dewatering would be negligible because the Syphon Canyon Basin is a relatively small portion of the greater Orange County Coastal Plain Groundwater Basin, and dewatering during construction would not have a long-term effect

with respect to groundwater levels or supplies. Therefore, impacts to groundwater supplies and recharge would be negligible, and the impact would be less than significant during construction. Once construction is complete, the Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would result in an increase in the new reservoir's storage capacity and would provide for enhanced recharge to groundwater resources, consistent with strategies for sustainable management of groundwater. Thus, relative to groundwater supplies and sustainable management of the basin, the Syphon Reservoir Improvement Project would result in a beneficial impact.

The 100% design plans would involve refinements to the project design and implementation methods. However, there would be no new construction or operational activities that would decrease groundwater supplies or interfere with groundwater recharge, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

c.i) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial erosion or siltation on- or off-site?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would not significantly alter the existing drainage pattern of the project site during construction. Due to the bowl-shaped topography of the site and the Syphon Reservoir Improvement Project's planned settlement basins and other required best management practices, drainage within the Syphon Reservoir Improvement Project site area east of the existing and proposed dam would continue to flow into the reservoir basin, as it does now. In addition, the implementation of a SWPPP as discussed in item a) above would prevent erosion and siltation during construction. Finally, compliance with the requirements of the MS4 and DAMP requirements would include design measures to prevent erosion and siltation. Once constructed, the drainage pattern of the Syphon Reservoir Improvement Project would be substantially the same as existing conditions. With compliance with the existing regulations, impacts relative to erosion or siltation during operations would be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. However, there would be no new construction or operational activities that would alter the existing drainage pattern of the site or area or result in erosion, and no mitigation would be required. As a result, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

c.ii) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

As discussed in the Syphon Reservoir Improvement Project FEIR and under items a), b), and c.i) above, compliance with the NPDES Construction General Permit with its required implementation of a SWPPP along with compliance with the design requirements of the MS4 and DAMP would prevent stormwater runoff that could cause flooding for the Syphon Reservoir Improvement Project. With compliance with

the existing regulations, impacts relative to increased surface runoff resulting in flooding on-site or off-site during operations would be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. However, there would be no new construction or operational activities that would alter the existing drainage pattern or result in surface runoff leading to flooding, and no mitigation would be required. As a result, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

c.iii) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

As discussed in the Syphon Reservoir Improvement Project FEIR and under items a), b), and c.i) above, compliance with the design requirements of the MS4 and DAMP would prevent runoff that could exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. With compliance with the existing regulations, impacts relative to stormwater drainage systems or additional sources of polluted runoff during operations would be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. However, there would be no new construction or operational activities that would create or contribute runoff water resulting in an exceedance of stormwater drainage system capacity or polluted runoff, and no mitigation would be required. The construction of the new temporary skid-mounted treatment system is needed to treat dewatered groundwater before discharging to the storm drain to comply with RWQCB requirements. The project would still be required to obtain coverage under the NPDES Construction General Permit, which would require the preparation and implementation of a SWPPP. As a result, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

c.iv) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: impede or redirect flood flows?

As discussed in the Syphon Reservoir Improvement Project FEIR and under items b) and c.ii) above, the reservoir is bowl-shaped, and stormwater falling within the reservoir would be retained. Compliance with the design requirements of the MS4 and DAMP would manage surface water flow outside of the reservoir and would prevent runoff that could impede or redirect flood flows. With compliance with the existing regulations, impacts relative to flood flows would be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. However, there would be no new construction or operational activities that would result in impeded or redirected flood flows, and no mitigation would be required. As a result, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The Syphon Reservoir Improvement Project FEIR found that the Syphon Reservoir Improvement Project site is not located in an area subject to tsunamis, resulting in no impact. Impacts relative to the release of pollutants associated with flood hazards are analyzed in items c.ii) and c.iv) above, which concluded a less than significant impact. The new engineered dam and reservoir would meet or exceed the current safety and design requirements established by the DSOD. With compliance with existing regulations for the design and operation of the dam, the impacts relative to the release of pollutants during seiches and flooding due to breaches of the dam would be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. As part of the new design, the engineered embankment dam would include a seepage control drainage system and a circulation/aeration system for the reservoir which would seal potential seepage pathways beyond the dam footprint. The new engineered dam and reservoir would meet or exceed the current safety and design requirements established by the DSOD. There would be no new construction or operational activities that would risk the release of pollutants under flood, tsunami, or seiche conditions, and no mitigation would be required. As a result, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Syphon Reservoir Improvement Project FEIR found that, once operational, the new Syphon Reservoir would function as a closed system and would not interact with surface waters, eliminating any impact to surface waters. Thus, the Syphon Reservoir Improvement Project would not conflict with the Water Quality Control Plan for the Santa Ana River Basin (also referred to as the Basin Plan) or a sustainable groundwater management plan, including Orange County Water District's Basin 8-1 Alternative Plan. In addition, the proposed Syphon Reservoir Improvement Project would reduce the flow of sediment and other pollutants in waterways and would increase recharge to groundwater (as discussed under item b) above), which would be consistent with the goals of the Basin Plan, resulting in a beneficial impact.

The 100% design plans would involve refinements to the project design and implementation methods. The construction of the new temporary skid-mounted treatment system is needed to treat dewatered groundwater before discharge to storm drains to comply with RWQCB requirements. The project would still be required to obtain coverage under the NPDES Construction General Permit, which would require the preparation and implementation of a SWPPP. There would be no new construction or operational activities that would conflict with the Water Quality Control Plan or a sustainable groundwater management plan, and no mitigation would be required. As a result, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Hydrology and Water Quality

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to hydrology and water quality. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162).

References

Orange County Water District. 2017. *Basin 8-1 Alternative Final Report.* Available at https://www.ocwd.com/media/4918/basin-8-1-alternative-final-report-1.pdf.

3.11 Land Use and Planning

Issues (and Supporting Information Sources):		*Yes*	*No*
XI.	**LAND USE AND PLANNING —** Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a)	Physically divide an established community?	☐	☒
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Physically divide an established community?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would not construct any physical structures that would impact mobility within the surrounding community or remove a means of access. Therefore, the Syphon Reservoir Improvement Project would result in no impact related to the physical division of an established community.

The 100% design plans would involve refinements to the project design and implementation methods. While aboveground components such as the dam control building have been added to the design, that facility, similar to the other aboveground facilities analyzed in the Syphon Reservoir Improvement Project FEIR, would not divide the surrounding community. No mitigation would be required. Therefore, refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The Syphon Reservoir Improvement Project FEIR identified that pursuant to California Government Code Section 53091, water supply facilities, such as those associated with the Syphon Reservoir Improvement Project, are exempt from building and zoning ordinances. The Syphon Reservoir is considered a water storage facility; thus, building and zoning ordinances of the County of Orange and City of Irvine, including the Orange County General Plan and the City of Irvine General Plan and its policies, do not apply to the Syphon Reservoir Improvement Project site. Additionally, the Syphon Reservoir Improvement Project does not propose development that would conflict with the Orange County General Plan, Orange County Zoning Code, the City of Irvine General Plan, or the City of Irvine Zoning Ordinance. Therefore, no impact would occur.

The 100% design plans would involve refinements to the project design and implementation methods. However, the refinements would not alter the existing land use on the project site. The 100% design plans would not result in any additional development that would conflict with any land use plan, policy or regulation, and no mitigation would be required. The refinements as part of the 100% design plans would

not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Land Use

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to land use. No further environmental review is required. (Public Resources Code § 21166; CEQA Guidelines § 15162).

3.12 Mineral Resources

Issues (and Supporting Information Sources):	*Yes*	*No*
XII. MINERAL RESOURCES — Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project site is not a known mineral resource area and does not have a history of mineral extraction uses. Additionally, according to the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, no oil wells exist on the Syphon Reservoir Improvement Project site. Therefore, impacts would not occur to the loss of availability of a known mineral resource.

The 100% design plans would involve refinements to the project design and implementation methods. Given that the Syphon Reservoir Improvement Project is not located in an area of known mineral resource, the 100% design plans would result in no additional activities that could affect loss of a known mineral resource, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project site is not identified as a mineral resource zone, according to the County of Orange. Therefore, construction of the Syphon Reservoir Improvement Project would not result in the loss of a locally important mineral resource recovery site and no impacts would occur.

The 100% design plans would involve refinements to the project design and implementation methods. Given that the Syphon Reservoir Improvement Project is not located in mineral recovery site, the 100% design plans would result in no additional activities that could affect loss of a locally important mineral resource, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Mineral Resources

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to mineral resources. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162).

3.13 Noise

Issues (and Supporting Information Sources):	*Yes*	*No*
XIII. NOISE — Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒
b) Generate excessive groundborne vibration or groundborne noise levels?	☐	☒
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would require the use of construction equipment for a temporary period of time. As discussed in the Syphon Reservoir Improvement Project FEIR, noise from construction activities would be generated by the operation of vehicles and equipment used for various construction activities, such as excavation and grading. Noise levels generated by construction equipment would vary depending on factors such as the type and number of equipment and the construction activities being performed. Noise levels at noise-sensitive receptor locations would also depend on the distance from the construction activities to the receptor location, as well as the presence of intervening terrain, vegetation, buildings, or other structures that would absorb or block the transmission of noise. The nearest noise-sensitive receptors are located approximately 55 feet from the Syphon Reservoir Improvement Project site (Crean Lutheran High School Athletic Complex), approximately 180 feet from the access road construction (residential uses), and approximately 700 feet from the dam, reservoir and treatment facilities (residential uses). The Syphon Reservoir Improvement Project FEIR determined that the Syphon Reservoir Improvement Project would comply with Irvine Municipal Code Section 6-8-205, which restricts construction to between the allowed hours of 7 a.m. to 7 p.m. Mondays through Fridays, and 9 a.m. to 6 p.m. on Saturdays. As such, construction activities would comply with the City's noise standards and would not result in significant impacts to nearby sensitive receptors. Impacts were found to be less than significant.

The Syphon Reservoir Improvement Project FEIR determined that the operational activities associated with the Syphon Reservoir Improvement Project would not increase the average daily traffic volumes along the major thoroughfares within the project vicinity. Additionally, the proposed inlet and outlet pipelines that would supply and drain the reservoir would be located underground and would not result in any operational noise. Furthermore, small pumps located on the site within the proposed treatment

facilities would be housed inside a masonry block wall building, which would block the transmission of noise and would not generate noise above ambient conditions at sensitive receptor property lines. Therefore, impacts from the operations of the Syphon Reservoir Improvement Project would be less than significant.

The revised project included in the 100% design plans would require the use of generally similar types of construction equipment as analyzed in the Syphon Reservoir Improvement Project FEIR. However, the duration of construction and amount of fill required for the dam replacement would be increased compared to the analysis in the Syphon Reservoir Improvement Project FEIR. The 100% design plans would extend the duration of construction from approximately 41 months to 60 months and would increase the volume of fill imported from approximately 100,000 cubic yards to 200,000 cubic yards. The number of daily construction equipment and trucks would be the same as analysis in the Syphon Reservoir Improvement Project FEIR, but the number of construction work days would be increased to accommodate the increased fill import and associated construction activities.

The nearest noise sensitive uses to the Project site are those as described in the Syphon Reservoir Improvement Project FEIR, which include the Crean Lutheran High School Athletic Complex, located between Portola Parkway and the toe of the existing dam, approximately 55 feet from the Project site, residential neighborhoods located on the southwest side of Portola Parkway as close as 180 feet from the proposed access road construction, and Crean Lutheran High School, located on the south side of Portola Parkway, east of Sand Canyon Road with the property line of the school located approximately 140 feet from the access road construction.

Given that the revised project included in the 100% design plans would require the use of generally similar types of construction equipment as analyzed in the Syphon Reservoir Improvement Project FEIR and that noise sensitive receptors would be located in similar locations as analyzed in the FEIR, construction noise impacts from the revised project included in the 100% design plans would be less than significant. Operation-related noise would not increase from what was analyzed in the Syphon Reservoir Improvement Project FEIR and would result in a less than significant impact. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Generate excessive groundborne vibration or groundborne noise levels?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would require the use of construction equipment for a temporary period of 41 months. Construction activities have the potential to generate low levels of groundborne vibration and groundborne noise from the use of heavy equipment (i.e., backhoe, dozer, grader, loader, and haul trucks, etc.), which generate vibrations that propagate though the ground and diminish in intensity with distance from the source. No high-impact activities, such as pile driving or blasting, would be used during construction. The Syphon Reservoir Improvement Project FEIR determined that construction would not exceed the significance thresholds for groundborne vibration, which are the levels at which structural (i.e., building) damage or human annoyance in occupied buildings could occur because of the distance separating construction areas and receptor locations. Operation of the Syphon Reservoir Improvement Project would not result in new sources of groundborne vibration and groundborne noise compared to

existing conditions. Thus, construction and operational groundborne vibration impacts were found to be less than significant.

As discussed above, the revised project included in the 100% design plans would require the use of generally similar types of construction equipment as analyzed in the Syphon Reservoir Improvement Project FEIR. While the 100% design plans would extend the duration of construction from approximately 41 months to 60 months, the vibration-sensitive uses would be located in similar locations as analyzed in the FEIR with adequate distance separating construction areas and receptor locations. Therefore, construction groundborne vibration impacts from the revised project included in the 100% design plans would be less than significant. Operation-related vibration would not increase from what was analyzed in the Syphon Reservoir Improvement Project FEIR and would result in a less than significant impact. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The Syphon Reservoir Improvement Project FEIR determined that the project area is not located within the vicinity of a private airstrip. Furthermore, the nearest airport to the project area is the John Wayne Airport, located approximately 7.7 miles to the southwest of the project area. The Syphon Reservoir Improvement Project is not located within an airport land use plan or within two miles of a public airport or public use airport. Therefore, the FEIR determined no impact related to public or private airport/airstrip noise levels would occur.

The refinements as part of the 100% design plans would not result in new activities that would expose people in the vicinity of an airport to excessive noise, and no mitigation would be required. Therefore, the 100% design would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Noise

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to noise. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162).

3.14 Population and Housing

Issues (and Supporting Information Sources):	*Yes*	*No*
XIV. POPULATION AND HOUSING — Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The Syphon Reservoir Improvement Project FEIR identified that the implementation of the Syphon Reservoir Improvement Project would not have a direct growth inducement effect because the Syphon Reservoir Improvement Project does not propose development of new housing that would attract additional population to the area. Additionally, the Syphon Reservoir Improvement Project would not introduce substantial permanent employment that could indirectly induce population growth in the City of Irvine and in the region. Construction activities associated with the construction of the Syphon Reservoir Improvement Project would introduce short-term construction employment opportunities and would not require persons outside of the Orange County workforce. Therefore, the Syphon Reservoir Improvement Project would not directly induce substantial unplanned population growth, and no impact would occur.

The refinements as part of the 100% design plans would not result in development that would introduce new permanent employees or residents to the area. While the 100% design plans would extend the duration of construction from approximately 41 months to 60 months, the associated short-term construction employment opportunities would not require persons outside of the Orange County workforce that could induce population growth. As a result, no impact would occur. Therefore, refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The Syphon Reservoir Improvement Project FEIR identified that there are no existing residences within the project area, and the Syphon Reservoir Improvement Project would not displace existing housing. Therefore, the Syphon Reservoir Improvement Project would not displace people or housing, necessitating the construction of replacement housing elsewhere, and no impacts would occur.

The refinements as part of the 100% design plans would not result in development that would displace people or housing, and no impact would occur. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Population and Housing

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to population and housing. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162).

3.15 Public Services

Issues (and Supporting Information Sources):	*Yes*	*No*
XV. PUBLIC SERVICES —		
a) Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts due to changed circumstances or new information for any of the following public services:		
i) Fire protection?	☐	☒
ii) Police protection?	☐	☒
iii) Schools?	☐	☒
iv) Parks?	☐	☒
v) Other public facilities?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts due to changed circumstances or new information for any of the following public services:

a.i) Fire Protection?

a.ii) Police Protection?

a.iii) Schools?

a.iv) Parks?

a.v) Other Public Facilities?

The Syphon Reservoir Improvement Project was found to not introduce substantial permanent employment that would indirectly induce population growth in the City of Irvine and in the region. Construction activities associated with the Syphon Reservoir Improvement Project would introduce short-term construction employment opportunities and would not require persons outside of the Orange County workforce. Therefore, the Syphon Reservoir Improvement Project would not substantially increase the need for new fire department staff or new facilities; require the expansion of new police stations to serve the Syphon Reservoir Improvement Project site; exceed enrollment capacity of the Irvine Unified School District; require new or expanded school facilities; result in the construction of new public parks or require the alteration of existing public parks; or otherwise require construction of new public facilities.

The 100% design plans would involve refinements to the project design and implementation methods. However, the refinements would introduce short-term construction employment opportunities and would not require persons outside of the Orange County workforce. The refinements as part of the 100% design plans would not lead to population growth and would not increase the demand for public services; no mitigation would be required. The refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Public Services

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to public services. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162.)

3.16 Recreation

Issues (and Supporting Information Sources):	*Yes*	*No*
XVI. RECREATION — Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The Syphon Reservoir Improvement Project FEIR identified that the implementation of the Syphon Reservoir Improvement Project would not increase the use of existing neighborhood and regional parks or other recreational facilities. The Syphon Reservoir Improvement Project FEIR initially included passive recreational facilities, such as a proposed walking trail installed east from the existing Highline Canal. In the Syphon Reservoir Improvement Project FEIR, IRWD committed to moderating the use of a recreational trail at Syphon Reservoir by restricting entrance to daily/seasonal use. As a result, impacts were less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. As part of these changes, IRWD has decided to remove the walking trail as a recreational component of the project. The walking trail would have had the potential to draw local residents to the area that could have indirectly increased the use of public parks in the vicinity of the Syphon Reservoir Improvement Project. Because this component has been removed from the project, no impact would occur. No other design modifications would change use of existing neighborhood and regional parks or other recreational facilities, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The Syphon Reservoir Improvement Project FEIR identified that the implementation of the Syphon Reservoir Improvement Project site would involve implementation of a passive trail in a manner that is compatible with the Syphon Reservoir Improvement Project site. Specifically, the Syphon Reservoir Improvement Project would include a proposed walking trail installed east from the existing Highline Canal. The construction of the proposed trail would result in impacts to special-status species and sensitive natural communities that would be potentially significant. The Syphon Reservoir Improvement Project FEIR included Mitigation Measures BIO-1 through BIO-6 to ensure that impacts to special-status

species and natural communities would be reduced to less than significant levels. Additionally, the construction of the walking trail along the Highline Canal would occur in close proximity to a historic-period archeological site. The Syphon Reservoir Improvement Project FEIR required implementation of Mitigation Measures CR-1 through CR-4 to ensure that construction activities are monitored and assessed for unanticipated discoveries, and impacts to cultural resources were found to be reduced to a less than significant level with mitigation incorporated. Operation and maintenance of the Syphon Reservoir Improvement Project proposed recreational facilities was found to have a less than significant impact with mitigation related to expansion of recreational facilities.

As discussed above, IRWD has decided to remove the walking trail as a recreational component of the Syphon Reservoir Improvement Project. As such, Mitigation Measures BIO-1 through BIO-6 and Mitigation Measures CR-1 through CR-4 would not be required. No impact would occur to recreational facilities. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Recreation

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to recreation. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162).

3.17 Transportation

Issues (and Supporting Information Sources):	*Yes*	*No*
XVII. TRANSPORTATION — Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☒
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒
d) Result in inadequate emergency access?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The Syphon Reservoir Improvement Project FEIR identified temporary and permanent vehicular trips associated with implementation of the Syphon Reservoir Improvement Project that could impact a plan addressing the circulation system. Impacts during construction if the intersection improvement phase would involve temporary lane closures that could create delays and/or detours for bikers and pedestrians traveling nearby. With the implementation of Mitigation Measure TRA-1 during the intersection improvement phase, which would require the preparation and implementation of a Traffic Control Plan, impacts would be reduced to a significant level. On any given day during construction of the Syphon Reservoir Improvement Project, between 10 and 46 workers would be required on-site. The Syphon Reservoir Improvement Project FEIR determined that 100,000 cubic yards of soil import to the Project site would result in a maximum of 66 daily haul trips. Peak construction trip generation would be up to 232 daily construction vehicle trips. The increased traffic volume that would result from operating the Syphon Reservoir Improvement Project was found to have a nominal impact on local circulation system performance, and impacts during operation were found to be less than significant.

IRWD completed the intersection improvements portion of the project in 2025 for which Mitigation Measure TRA-1 was required and implemented. The 100% design plans would extend the duration of construction from approximately 41 months to 60 months and would increase the volume of fill imported from approximately 100,000 cubic yards to 200,000 cubic yards. The number of daily construction equipment and trucks would be the same as analysis in the Syphon Reservoir Improvement Project FEIR (66 haul trips daily), but the number of construction work days would be increased to accommodate the increased fill import and associated construction activities. Adjustments to the access road width would also be made to include two-way traffic between Portola Parkway and the reservoir. This increase in roadway width would allow for two-way traffic and would eliminate the need for a traffic flagger, improving site access safety. All 100% design refinements would be located on the project site and not on public rights-of-ways, and would result in less than significant impacts to circulation without the need for

mitigation measures. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

The Syphon Reservoir Improvement Project FEIR determined that all phases of construction and operation would generate fewer than 250 daily weekday trips. Screening criteria in the City of Irvine's adopted *CEQA Vehicle Miles Traveled (VMT) Impact Analysis Guidelines* exclude projects generating fewer than 250 weekday daily trips from further VMT impact analysis. Therefore, it was determined that construction of the Syphon Reservoir Improvement Project would meet the City of Irvine's daily trip screening threshold, and the Syphon Reservoir Improvement Project requires no further VMT impact analysis. Impacts were found to be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. Construction methods would be similar to conditions analyzed in the Syphon Reservoir Improvement Project FEIR and would not result in changed circumstances that would affect VMT. There would be no new activities that could increase daily roadway trips and conflict with CEQA Guidelines Section 15064.3(b), and no mitigation would be required. Therefore, the 100% design plan refinements would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Syphon Reservoir Improvement Project FEIR included access improvements that modified the turn lane geometry and added a traffic signal at the intersection of Sand Canyon Avenue and Portola Parkway. The Syphon Reservoir Improvement Project FEIR analysis evaluated the proposed intersection improvements for consistency with the City of Irvine Transportation Design Procedures' (TDP) recommended design features for left-turn lane pocket lengths (TDP 1), driveway lengths (TDP 14), and vehicle stacking and gate-stacking at project sites and concluded that proposed lane and signal changes would be implemented in a manner that is consistent with City of Irvine traffic control regulations to ensure that intersection modifications do not create additional hazards impacts for vehicles traveling on the northbound, eastbound, or westbound roadways. Impacts were found to be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. The particular refinements listed in Table 1 that may result in potential impacts to traffic hazards include the rerouting of the access roads. The revised alignment across the dam face would allow for reduced grade of access roads which would improve safety. Additionally, adjustments to the access road width would allow for two-way traffic between Portola Parkway and the reservoir, which would eliminate the need for a traffic flagger, improving site access safety. Impacts would be less than significant without the need for mitigation measures. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

d) Result in inadequate emergency access?

The Syphon Reservoir Improvement Project FEIR identified that while the Syphon Reservoir Improvement Project would not involve closure of any roadways, temporary lane closures could interfere with emergency access. To ensure that impacts related to emergency access would not occur as a result of the Syphon Reservoir Improvement Project, Mitigation Measure TRA-1 was required, which involves coordination with emergency responders, including fire departments, police departments, and ambulances that have jurisdiction in the Syphon Reservoir Improvement Project area. The mitigation measure also requires that IRWD notify emergency responders of any partial or full lane closures at least 30 days prior to impacts. With implementation of Mitigation Measure TRA-1, impacts were reduced to a less than significant level. Due to the relatively limited amount of vehicle trips associated with operation and maintenance of the Syphon Reservoir Improvement Project, such trips would not interfere with emergency access, and impacts would be less than significant.

IRWD completed the intersection improvements portion of the project in 2025 for which Mitigation Measure TRA-1 was required and implemented. The 100% design plans would involve refinements to the project design and implementation methods. All 100% design refinements would be located on the project site and not on public rights-of-way. There would be no new construction or operational activities that would impede emergency access. Furthermore, the 100% design plans involve widening the access road to include two-way traffic between Portola Parkway and the reservoir. This increase in roadway width would allow for two-way traffic and would eliminate the need for a traffic flagger, improving site access and safety. Impacts would be less than significant and no mitigation measures would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Transportation

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to transportation. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162).

3.18 Tribal Cultural Resources

Issues (and Supporting Information Sources):	*Yes*	*No*
XVIII. TRIBAL CULTURAL RESOURCES — Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:		
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources. Code Section 5020.1(k), or	☐	☒
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a.i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

a.ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

While preparing the Syphon Reservoir Improvement Project FEIR, IRWD engaged in a consultation process with the Gabrieleno Band of Mission Indians - Kizh Nation and other tribal entities pursuant to Public Resources Code Section 21080.3.1. No parties objected to the adequacy of the consultation process or the adequacy of adopted mitigation measures prior to the close of the public hearing in July 2021. IRWD has complied with all applicable tribal consultation requirements (see Public Resources Code § 21080.3.1).

The refinements as part of the 100% design plans would be located within the Syphon Reservoir Improvement Project site boundary for which tribal consultation was conducted as part of the FEIR. The 100% design plans would involve ground-disturbing activities that could result in potentially significant impacts to tribal cultural resources. Mitigation Measures CR-2, CR-3, and CR-4 would be required,

which involve worker sensitivity training, construction monitoring, and protocols for unanticipated discoveries during construction. With implementation of Mitigation Measures CR-2, CR-3, and CR-4 from the Syphon Reservoir Improvement Project FEIR, impacts to tribal cultural resources would be reduced to a less than significant level.[6] Therefore, the refinements as part of the 100% design plans would not result in a new significant impact to tribal cultural resources or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measure is required to be implemented under this Addendum No. 3

> **CR-2: Worker Sensitivity Training.** Prior to the start of construction activities, all construction personnel should be trained to identify the types of cultural resources that may be encountered during project implementation. These include both prehistoric and historic period archaeological resources. In addition to cultural resources recognition, the training should convey procedures to follow in the event of a potential cultural resources discovery, including notification procedures. The training should be provided by the Qualified Archaeologist or an archaeologist working under their supervision.
>
> **CR-3: Construction Monitoring.** An archaeological monitor (working under the direct supervision of the Qualified Archaeologist) shall observe all ground-disturbing activities, including but not limited to brush clearance, vegetation removal, grubbing, grading, and excavation, in undisturbed areas of the project site. In addition, the Qualified Archaeologist, in coordination with IRWD, may reduce or discontinue monitoring if it is determined that the possibility of encountering buried archaeological deposits is low based on observations of soil stratigraphy or other factors. Archaeological monitoring shall be conducted by an archaeologist familiar with the types of archaeological resources that could be encountered within the project site. The archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of a discovery until the Qualified Archaeologist has evaluated the discovery, consulted with IRWD, and determined appropriate treatment (as prescribed in CR-3). The archaeological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries. After monitoring has been completed, the Qualified Archaeologist shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to IRWD and any Native American groups who request a copy. The Qualified Archaeologist shall submit a copy of the final report to the California Historic Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC).
>
> In addition, prior to the commencement of earthwork activities, IRWD shall provide written notification to the Native American representatives from the Gabrieleno Band of Mission Indians - Kizh Nation indicating the date and time of the commencement of earthwork activities. The representatives from the Gabrieleno Band of Mission Indians - Kizh Nation ("tribal representative") shall be provided reasonable access to the project site in a manner that does not interfere with the earthwork activities. Tribal representatives, at their own expense, and in a manner that does not interfere with earthwork activities, shall be allowed to monitor subsurface ground-disturbing construction activities. The monitoring may consist of either direct observation of the earthwork activities or the examination of the excavated soils prior to disposal for evidence of cultural resources. If any cultural resources are identified during the monitoring and evidence is presented that the discovery proves to be potentially significant under CEQA, as determined by

[6] IRWD has complied with all applicable tribal consultation requirements (see Public Resources Code § 21080.3.1).

IRWD's consulting Qualified Archaeologist, additional measures such as data recovery excavation, avoidance of the area of the find, documentation, testing, data recovery, reburial, archival review and/or transfer to the appropriate museum or educational institution, or other appropriate actions may be warranted as recommended by IRWD's consulting Qualified Archeologist in consultation with the tribal representative.

CR-4: Protocols for Unanticipated Discoveries. If cultural resources are encountered during project implementation, all activity within 50 feet of the find should cease until the find can be evaluated by the Qualified Archaeologist. If the Qualified Archaeologist determines that the resources may be significant, he or she will notify IRWD and develop an appropriate treatment plan for the resource. IRWD should consult with the Native American monitor or other appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Under CEQA, preservation in place is the preferred manner of mitigating impacts to archaeological sites. In considering any suggested measures proposed by the archaeologist to mitigate impacts to archaeological resources, IRWD will determine whether avoidance is feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures will be instituted, which could include, among other options, detailed documentation, or data recovery excavation. Work may proceed on other parts of the project area while mitigation for cultural resources is being carried out.

Summary of Potential Effects on Tribal Cultural Resources

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to tribal resources. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162).

3.19 Utilities and Service Systems

Issues (and Supporting Information Sources):	*Yes*	*No*
XIX. UTILITIES AND SERVICE SYSTEMS — Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☒
b) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☒
e) Fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would result in an expanded water storage facility (dam, pipelines, treatment and disinfection, etc.). The Syphon Reservoir Improvement Project FEIR found that no new water, wastewater, stormwater drainage, electric power, natural gas, or telecommunication facilities would be required other than those analyzed throughout the Syphon Reservoir Improvement Project FEIR. Therefore, the implementation of the Syphon Reservoir Improvement Project would not require the relocation of any of the existing infrastructure, and no impacts would occur.

The 100% design plans would involve refinements to the project design and implementation methods. All improvements listed in Table 1 include utility components that support and are part of the overall Syphon Reservoir Improvement Project such as electrical connections, groundwater treatment, and water supply. The refinements as part of the 100% design plans would not result in relocation or construction of significant new water, wastewater, stormwater drainage, electric power, natural gas or telecommunication facilities not associated with the Syphon Reservoir Improvement Project. A less than significant impact would occur, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would increase storage of recycled water, which would be beneficially used within IRWD's service area instead of potable water, reducing dependency on costly, imported water and maintaining operational efficiency at IRWD's water recycling plants. No new water supplies or entitlements would be required to serve the Syphon Reservoir Improvement Project itself. Therefore, no impacts would occur related to water supplies.

The 100% design plans would involve refinements to the project design and implementation methods. All improvements listed in Table 1 support the overall Syphon Reservoir Improvement Project, which is a water supply project. No new water supplies or entitlements would be required to support the 100% design modifications. No impact would occur, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would not generate wastewater associated with construction, such as temporary use of portable facilities. Once construction activities are completed, portable facilities would be removed, and the wastewater would be properly handled and disposed of in accordance with all applicable laws and regulations. Therefore, no impacts would occur related to wastewater treatment capacity.

The 100% design plans would involve refinements to the project design and implementation methods. A new temporary groundwater treatment system would be constructed onsite to treat dewatered groundwater to meet water quality standards. The treated water would be reused for dust control purposes or routed to the sewer for additional treatment at IRWD's Michelson Water Recycling Plant. This would be a temporary treatment system that would allow IRWD to dispose of any contaminated groundwater according to water quality standards and would not result in the need for additional wastewater treatment capacity. No impact would occur, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

The Syphon Reservoir Improvement Project FEIR identified that implementation of the Syphon Reservoir Improvement Project will result in construction debris from demolition of the existing dam and construction and contouring of the new reservoir bottom. Construction-related debris would require disposal at regional landfills serving the Syphon Reservoir Improvement Project area. The Syphon Reservoir Improvement Project FEIR found three permitted Class III landfills in Orange County available to access waste. The Frank R. Bowerman Landfill, located adjacent to the Syphon Reservoir Improvement

Project site, would be the primary destination for construction-related solid waste and has remaining capacity through the year 2053. If the limit of 11,500 tons per day is reached at that landfill, waste would be diverted to either the Olinda Landfill or the Prima Deshecha Landfill, both located in Orange County. Thus, the Syphon Reservoir Improvement Project would be served by landfills with sufficient permitted capacity to accommodate the project's solid waste disposal needs, and no impact would occur.

The 100% design plans would involve refinements to the project design and implementation methods. The refinements would not increase the generation of solid waste. No impact would occur, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would result in nominal solid waste. Statewide policies regarding solid waste have become progressively more stringent, reflecting Assembly Bill 939, which required local governments to develop waste reduction and recycling policies. IRWD would be required to comply with all laws and regulations related to the disposal and recycling of waste and for disposal of any hazardous materials resulting from demolition of the dam and the strainer and disinfection facilities. Therefore, no impact would occur.

The 100% design plans would involve refinements to the project design and implementation methods. The refinements would not increase the generation of solid waste. No impact would occur, and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Utilities and Service Systems

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to utilities and service systems. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162).

3.20 Wildfire

Issues (and Supporting Information Sources):		*Yes*	*No*
XX.	**WILDFIRE —** If located in or near state responsibility areas or land classified as very high fire hazard severity zones, would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:		
a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☒
b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☒
c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☒
d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☒

Discussion

Would project modifications, changed circumstances, or new information substantially increase the severity of significant impacts identified in the previous CEQA document or result in new significant impacts that could:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

The Evacuation Plan for the City of Irvine identifies Portola Parkway to the west and SR-133 to the southeast as evacuation routes. Construction of the Syphon Reservoir Improvement Project would involve intersection improvements at the Portola Parkway/Sand Canyon Avenue intersection and would not involve closure of any roadways; however, temporary lane closures could be required. The Syphon Reservoir Improvement Project FEIR required implementation of Mitigation Measure TRA-1 to require the preparation and implementation of a Traffic Control Plan during construction of the intersection improvement phase. The Traffic Control Plan would include, but would not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate emergency access and circulation to the satisfaction of the City of Irvine. Therefore, with implementation of Mitigation Measure TRA-1, impacts to a circulation system during construction would be less than significant with respect to emergency response teams or an evacuation plan. Once construction is complete, intersection improvements at Portola Parkway/Sand Canyon Avenue would provide access for operation and maintenance vehicles onto IRWD property. Thus, operation of the Syphon Reservoir Improvement Project would not result in impacts on emergency response plans or emergency evacuation plans.

IRWD completed the intersection improvements portion of the project in 2025 for which Mitigation Measure TRA-1 was required and implemented. The 100% design plans would involve refinements to the project design and implementation methods. All 100% design refinements would be located on the project site and not on public rights-of-ways. There would be no new construction or operational activities that would impede emergency access. Furthermore, the 100% design plans involve widening the access road

to include two-way traffic between Portola Parkway and the reservoir. This increase in roadway width would allow for two-way traffic and would eliminate the need for a traffic flagger, improving site access and safety. Impacts would be less than significant and no mitigation measures would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project site is within a Moderate Fire Hazard Severity Zone in a State Responsibility Area and includes slopes surrounding the existing reservoir that are susceptible to prevailing winds. In addition, brush and grasslands within the Syphon Reservoir Improvement Project site are highly flammable. During construction, equipment and on-site diesel fuel could pose a risk to wildfire with possible ignition sources such as internal combustion engines, gasoline-powered tools, and equipment that could provide a spark, fire, or flame. The Syphon Reservoir Improvement Project would be required to comply with Public Resources Code Sections 4427, 4428, 4431, and 4442, which include regulations relating to the handling of combustible fuels and equipment that can exacerbate fire risks. Additionally, construction activities for the Syphon Reservoir Improvement Project would comply with fire protection and prevention requirements specified by the California Code of Regulations and California Division of Occupational Safety and Health. During operation, the Syphon Reservoir Improvement Project would involve expansion of the existing reservoir water storage capacity, and increased water levels would effectively create more inundated area and fewer steep slopes susceptible to prevailing winds within the Syphon Reservoir Improvement Project area in winter and spring months when the reservoir is full. Operation-related activities would involve a limited number of maintenance trucks for inspections and material delivery, which would utilize established access roads and would have low potential of producing uncontrolled spread of wildfire. The Syphon Reservoir Improvement Project FEIR required implementation of Mitigation Measure WDF-1, which would ensure fire hazard reduction measures are implemented during Syphon Reservoir Improvement Project construction activities to further reduce the potential for wildfire impacts on project workers.

In 2024, the wildland fire designation changed at the Syphon Reservoir site to Very High FHSZ (CalFire 2024). The 100% design plans would involve refinements to the project design and implementation methods. Particularly, a new aboveground dam control building would be constructed near the inlet/outlet works to house air compressors and other dam-related equipment. One of the design modifications includes fuel reduction/modification provisions which would thin brush around the proposed dam control building. All other 100% design modifications would involve similar construction and operational methods previously analyzed. Similar to the analysis conducted in the Syphon Reservoir Improvement Project FEIR, impacts to wildfire risks would be potentially significant. The refinements as part of the Project would be subject to all applicable laws, regulations, monitoring and safety measures, and would require implementation of Mitigation Measure WDF-1 as identified in the Syphon Reservoir Improvement Project FEIR, which would be required to ensure fire hazard reduction measures are implemented during Project activities to further reduce the potential for wildfire impacts on workers.

Implementation of Mitigation Measure WDF-1 previously identified in the Syphon Reservoir Improvement Project FEIR would ensure that impacts related to wildfire risks are reduced to less than significant level. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measure is required to be implemented under this Addendum No. 3.

> **WDF-1: Fire Hazard Reduction Measures.** During project implementation, IRWD shall require all spark arrestors on construction and maintenance equipment to be in good working order. Contractors shall require all vehicles and crews to have access to functional fire extinguishers at all times.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The Syphon Reservoir Improvement Project FEIR identified that the Syphon Reservoir Improvement Project would include the construction and operation of new access roads and pipelines to support the expanded dam and reservoir. The new infrastructure would not pose additional risk to exacerbate wildfires. All infrastructure installed as part of the Syphon Reservoir Improvement Project FEIR during operation and maintenance would be required to implement fire reduction measures, as outlined in Mitigation Measure WDF-1. Thus, impacts would be less than significant with mitigation.

The 100% design plans would involve refinements to the project design and implementation methods. All improvements listed in Table 1 include infrastructure that support and are part of the overall Syphon Reservoir Improvement Project such as electrical connections, groundwater treatment, and water supply. Given the increased wildfire designation from Moderate Fire Hazard Severity Zone to Very High Fire Hazard Severity Zone (CalFire 2024), the potential for the revised project included in the 100% design plans to exacerbate wildfire risk is a potentially significant impact. IRWD would be subject to all applicable laws, regulations, monitoring and safety measures, and would require implementation of Mitigation Measure WDF-1 as identified in the Syphon Reservoir Improvement Project FEIR, which would be required to ensure fire hazard reduction measures are implemented during Project activities to further reduce the potential for wildfire impacts on workers. Additionally, the 100% design plan refinements include fuel reduction and modification provisions to decrease fire risk from electrical sources at the dam control building. Implementation of project features, adherence to regulations, and implementation of Mitigation Measure WDF-1 would ensure that impacts related to wildfire risks are reduced to less than significant level. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact or a substantial increase in the severity of the previously identified significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Mitigation Measures from the 2021 Syphon Reservoir Improvement Project FEIR

The following mitigation measure is required to be implemented under this Addendum No. 3

Implement **Mitigation Measure WDF-1**.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The Syphon Reservoir Improvement Project FEIR identified that during construction, approximately 2.4 million cubic yards of material would be excavated from the Syphon Reservoir Improvement Project site. These materials include topsoil, lake bottom sediments, alluvium, colluvium, slopewash, and formational materials as well as the existing dam. Approximately 2.2 million cubic yards of compacted material would be reused on-site for construction of the new dam. Site alteration through the movement of substantial quantities of soil and earth materials has the potential to result in landslides as a result of runoff or drainage changes during construction. However, due to the bowl-shaped topography of the site and the planned sediment basins, erosion on-site would not extend beyond the boundaries of the site. The Syphon Reservoir Improvement Project site would be required to comply with the *NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002 as amended by Orders 2010-0014-DWQ, 2012-006-DWQ, and 2022-0057-DWQ) (Construction General Permit) and local stormwater ordinances. Once constructed, the Syphon Reservoir Improvement Project would be designed to withstand a variety of site conditions to maintain capacity for the purpose of water storage. Specifically, the Syphon Reservoir Improvement Project would incorporate slopes no steeper than 4H:1V (a ratio of 4 units of horizontal length to 1 unit of vertical height) to promote slope stability. The inclinations of the natural hillside slopes surrounding the reservoir are typically 4H:1V; thus, the inclination of cut slopes would be similar to that of the natural slopes. Therefore, the operation of the Syphon Reservoir Improvement Project was found to not involve on-site personnel that could be put at risk should landslides or flooding occur as a result of wildland fires. Thus, impacts on people or structures due to downslope or downstream flooding or landslides as a result of runoff were found to be less than significant.

The 100% design plans would involve refinements to the project design and implementation methods. Construction methods would be similar to conditions analyzed in the Syphon Reservoir Improvement Project FEIR. The site alteration and movement of soil and earth materials has the potential to result in landslides during construction, however, erosion would not extend beyond the boundaries of the site as analyzed in the Syphon Reservoir Improvement Project FEIR. All construction would comply with the Construction General Permit and local stormwater ordinances. Impacts would be less than significant and no mitigation would be required. Therefore, the refinements as part of the 100% design plans would not result in a new significant impact and would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

Summary of Potential Effects on Wildfire

The refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects, with respect to wildfire. No further environmental review is required (Public Resources Code § 21166; CEQA Guidelines § 15162).

3.21 Mandatory Findings of Significance

Issues (and Supporting Information Sources):	*Yes*	*No*
XXI. MANDATORY FINDINGS OF SIGNIFICANCE —		
a) Does the Project Modification have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒
b) Does the Project Modification have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒
c) Does the Project Modification have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒

Discussion

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

The Syphon Reservoir Improvement Project FEIR concluded that the Syphon Reservoir Improvement Project would not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

As discussed throughout this Addendum No. 3, the refinements as part of the 100% design plans would not in itself be a new significant impact or constitute a change in the project setting that could result in a new significant impact or substantially more severe significant impact. The Syphon Reservoir Improvement Project FEIR determined impacts to special-status wildlife species would be potentially significant and required implementation of Mitigation Measures BIO-1 through BIO-5. The mitigation measures included in the current Mitigation Monitoring and Reporting Program adopted by IRWD as part of the certified FEIR to establish both on-site and off-site compensatory mitigation would also be appropriate and sufficient to reduce impacts to biological resources to less than significant levels. No additional mitigation or compensation would be required. Therefore, the refinements would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects. As a result, the refinements as part of the 100% design plans would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

b) Does the project have impacts that are individually limited, but cumulatively considerable?

The Syphon Reservoir Improvement Project FEIR identified the Syphon Reservoir Improvement Project's contribution to cumulative impacts for all resource topics and concluded that cumulative impacts would be less than significant, often with implementation of mitigation measures. The 100% design plans would involve refinements to the project design and implementation methods. However, the refinements would not result in any additional impacts or the need for additional mitigation measures. As a result, as described throughout this Addendum No. 3, the refinements as part of the 100% design plans would not result in new significant cumulative environmental effects, result in a substantial increase in the severity of previously identified cumulative significant effects, or result in a substantial increase in the severity of previously identified cumulatively considerable contributions to significant cumulative impacts.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

The Syphon Reservoir Improvement Project FEIR concluded that the Syphon Reservoir Improvement Project would not result in impacts that could cause substantial adverse effects on human beings, either directly or indirectly. The 100% design plans would involve refinements to the project that introduces updates to the projects and what was assumed and analyzed in the Syphon Reservoir Improvement Project FEIR. However, the refinements would not result in any additional impacts or the need for additional mitigation measures. As described throughout this Addendum, the refinements would not result in environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. Therefore, the refinements as part of the 100% design plans would not result in new significant environmental effects or result in a substantial increase in the severity of previously identified significant effects. As a result, the refinements as part of the 100% design plans would not alter the conclusions of the Syphon Reservoir Improvement Project FEIR.

CHAPTER 4
Determination

As mentioned in Section 1.3, *Regulatory Background*, IRWD as Lead Agency, finds that no subsequent EIR is required to address the refinements as part of the 100% design plans because there would not be substantial changes to the project, changed circumstances, or new information that would require major revisions of the previous EIR due to involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant impacts. Furthermore, new information does not indicate that the refinements would have new significant effects not discussed in the certified FEIR; that significant effects previously examined will be substantially more severe than shown in the certified FEIR; that mitigation measures or alternatives previously found not to be feasible would in fact be feasible; or that mitigation measures or alternatives which are considerably different from those analyzed in the certified FEIR would substantially reduce one or more significant effects on the environment but IRWD declines to adopt the mitigation measures or alternatives. Section 15164(a) of the CEQA Guidelines provides that an addendum to a previously certified EIR is permissible if some changes or additions are necessary but none of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR have occurred. As analyzed in this document, IRWD has determined the refinements as part of the 100% design plans would not result in any of the conditions listed in CEQA Guidelines Section 15162. As a result, this Addendum No. 3 to the Syphon Reservoir Improvement Project FEIR has been prepared and is the appropriate CEQA document.