



NOTICE OF PREPARATION AND SCOPING MEETING FOR THE SANTIAGO CREEK DAM OUTLET TOWER AND SPILLWAY IMPROVEMENTS PROJECT ENVIRONMENTAL IMPACT REPORT

DATE: May 04, 2023

TO: Reviewing Agencies and Other Interested Parties

FROM: Irvine Ranch Water District, 15600 Sand Canyon Avenue, Irvine, California 92618

PROJECT TITLE/SUBJECT: Santiago Creek Dam Outlet Tower and Spillway Improvements Project — Notice of Preparation of an Environmental Impact Report (EIR) and Notice of Public Scoping Meeting

PROJECT APPLICANT: Irvine Ranch Water District

NOTICE OF PREPARATION REVIEW PERIOD: May 04, 2023 – June 05, 2023 (30 days)

SCOPING MEETING: May 16, 2023

The purpose of this Notice of Preparation (NOP) is to notify potential Responsible Agencies (Agencies) that the Lead Agency, the Irvine Ranch Water District (IRWD), will prepare an Environmental Impact Report (EIR) for the proposed Santiago Creek Dam Outlet Tower and Spillway Improvements Project (Project) and to solicit comments and suggestions regarding (1) the scope and content of the EIR and (2) the environmental issues and alternatives to be addressed in the EIR (California Environmental Quality Act [CEQA] Guidelines Section 15082). This NOP also provides notice to interested parties, organizations, and individuals of the preparation of the EIR and requests comments on the scope and contents of the environmental document. A more detailed Project Description is available in the Initial Study for review at www.IRWD.com/irvinelakeproject.

PROJECT LOCATION:

The Project is located at Santiago Creek Dam at the northwest end of Irvine Lake in unincorporated Orange County, California. Santiago Creek Dam impounds Irvine Lake. The Project is located south of State Route (SR) 261 and east of SR-241 and Santiago Canyon Road. Existing structures include the dam, outlet tower in Irvine Lake, spillway channel, flashboard storage shed, control house/outlet works, energy dissipater structure, Irvine Lake pipeline (ILP), and dam access road.

The Project site is located on the U.S. Geological Survey's Black Star Canyon 7.5-minute quadrangle. It is within the Santa Ana Watershed. The drainage area for the Project encompasses approximately 63.4 square miles. Irvine Lake (also called the Santiago Creek Reservoir) was originally constructed in 1933 to store water for the benefit of the surrounding communities.



Surrounding land uses primarily consist of undeveloped open space. Irvine Regional Park is located northwest of SR-241; Limestone Canyon Regional Park is located south of Santiago Canyon Road; and Oak Canyon

Park is located at the southeast end of Irvine Lake. The closed Santiago Canyon Landfill is located adjacent to the west of Irvine Lake. Residential development is located west of SR-241.

PROJECT BACKGROUND:

IRWD and Serrano Water District (SWD), jointly referred to as the “Districts”, operate Irvine Lake and the Santiago Creek Dam that serves as a critical water supply reservoir for the Districts. IRWD uses water from Irvine Lake for two purposes: 1) as a source of water for non-drinking purposes, such as irrigation uses, and 2) as a source of water for the Baker Water Treatment Plant, which produces drinking water for an estimated 85,000 homes in Orange County. SWD uses water from Irvine Lake to provide treated drinking water to its customers in the City of Villa Park and some parts of the City of Orange.

Santiago Creek Dam is a compacted earthfill embankment completed in 1933 and certified by the State of California, Department of Water Resources, Division of Safety of Dams (DSOD), which identifies it as Dam No. 75-000. Santiago Creek Dam is in Orange County, California and impounds water for Irvine Lake on Santiago Creek, a tributary to the Santa Ana River.

The Districts have been working with the DSOD to evaluate different structural elements of the existing Santiago Creek Dam, including the evaluation of the existing outlet tower and an alternative analysis for seismic retrofits or replacement of the tower. DSOD requested the Districts perform a seismic evaluation of the outlet tower; evaluation of the results shows that the tower is nearing the end of its useful life and could be replaced and upgraded to today’s seismic and safety standards. In addition, DSOD also requested a spillway condition assessment be performed for the spillway at Santiago Creek Dam. The assessment found that the aging spillway is nearing the end of its useful life and the design, while acceptable at the time of construction, does not meet current design standards.

In light of the findings from the seismic evaluation for the existing outlet tower and comprehensive assessment of the existing spillway, the Districts have elected to develop designs for an inclined outlet structure that would be placed near the left abutment of the existing dam and to replace the existing spillway with a side-channel spillway on the left abutment. The spillway crest would also be raised by six feet to regain operational storage capacity that was lost over the years due to sedimentation. The existing outlet tower would be abandoned, and the new inclined outlet structure would connect to the existing outlet conduit within the reservoir.

The rehabilitation and replacement of the Santiago Creek Dam outlet works, and spillway facilities is necessary to address identified seismic safety concerns; to meet current DSOD regulatory requirements; to satisfy the Districts’ operational requirements; to extend the useful life of the facilities; and to improve reliability.

PROJECT DESCRIPTION:

General elements of each portion of the Project are included below. A more detailed description of the proposed facilities is included in the Initial Study.

- Demolition of existing structures, including the existing outlet tower, portions of the existing spillway, portions of the upstream dam embankment concrete facing, storage building on the dam crest, portions of the outlet works, portions of the ILP, catwalk/stairs across Santiago Creek, and piezometers/monitoring wells.
- The existing outlet tower would be demolished, capped, and a new inclined outlet structure would be constructed on the left abutment. Each riser would be equipped with an intake fish screen.
- Inlet/Outlet works would be configured to incorporate the new structure, including new valves and fittings. Water would enter through the new inclined inlet/outlet structure, would enter an existing conduit under the dam. At the downstream toe of the dam, a new fitting would be installed to bifurcate the flow to the ILP or the emergency outlet pipeline. Water that enters the ILP would reach the Districts’ distribution systems. Water that enters the emergency outlet pipeline would be released at the end of the new spillway.

- The ILP would be increased from 36 inches to 54 inches to increase the capacity of the line to improve the hydraulic performance of the system.
- The existing spillway would be demolished and replaced with a new side-channel spillway at the left abutment.

Ancillary site improvements are also proposed for the Project, including the following:

- New access road and ramp to provide vehicle access to the new inclined/outlet structure. A new shotcrete tie-back retaining wall would be needed to cut the roadway into the existing slope without affecting the existing landfill facility above.
- New dam control building to house the valve system (approximately 52 feet by 18 feet with a height of 12 feet). The new building would be designed in accordance with IRWD's fire-hardening building criteria.
- Widening of the existing dam crest from 10 feet to 12 feet with a retaining wall on the downstream side of the crest. The retaining wall would be 1,300 feet in length and would have a height of 10 feet.
- Raising of the dam crest with an approximately 1.5-foot-tall parapet wall on the upstream side of the dam crest. This wall would raise the effective dam crest from an elevation of 795.9 to 797.9 feet for DSOD freeboard requirements during the Probably Maximum Flood event.
- New emergency access walkway (5 feet wide) and stair system along the left wall of the new spillway channel to reach the inlet/outlet structure and dam crest from the adjacent landfill during a spillway event. The walkway would connect to the new access road (described above).
- New prefabricated steel bridge structure for vehicles across the spillway.

The Project includes raising the spillway to 797.9 feet, which is 2 feet higher than the existing maximum water storage elevation with the flashboards installed. Raising the spillway would allow the lake to impound water up to the 797.9-foot elevation contour year-round, which would allow storage of approximately an additional 1,600 acre-feet of additional water.

CONSTRUCTION ACTIVITIES:

It is estimated that construction of the Project would take approximately three years to complete, assuming potential down time associated with weather delays and work restrictions in the wet season. The initial construction schedule anticipates that the spillway and inclined outlet structure improvements would be constructed over multiple dry seasons.

NOTICE OF PREPARATION (NOP):

IRWD has made a determination that a full-scope EIR, inclusive of all environmental topics except for Agriculture and Forest Resources, Hazards and Hazardous Materials, Mineral Resources, Population and Housing, Public Services, Recreation, and Wildfire is required for the proposed Project. The NOP can also be accessed online at www.IRWD.com/irvinelakeproject. Copies are available for review at Irvine Ranch Water District, 15600 Sand Canyon Avenue, Irvine, California 92618, and at the following locations:

- Irvine/Katie Wheeler Library, 13109 Old Myford Road, Irvine, CA 92602
- Library of the Canyons, 7531 East Santiago Canyon Road, Silverado, CA 92676

IRWD requests your careful review and consideration of this notice, and it invites any and all input and comments from interested Agencies, persons, and organizations regarding the preparation of the EIR. Pursuant to CEQA Section 21080.4, comments must be submitted in response to this notice no later than 30 days after receipt of the NOP during the scoping period, which begins on May 4, 2023, and ends at the close of business on June 5, 2023. All comments or other responses to this notice should be submitted in writing to:

Andy Uk
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Irvine Ranch Water District Water Resources & Policy Department
15600 Sand Canyon Avenue
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949.453.5326

NOTICE OF PUBLIC SCOPING MEETING:

IRWD will conduct a public scoping meeting in conjunction with this NOP to present the Project, describe the EIR process, and receive public comments and suggestions regarding the scope and content of the EIR. The meeting will be held on May 16, 2023, at 5:00 PM, at the following location:

IRWD's Board Room
15600 Sand Canyon Avenue
Irvine, California 92618

ALTERNATIVES TO THE PROPOSED PROJECT:

CEQA Guidelines Section 15126.6(a) requires that, "an EIR describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project and evaluate the comparative merits of the alternatives."

IRWD will develop alternatives, which will include the CEQA-required No Project Alternative, that will be determined once the technical analyses are completed and there is an understanding of the Project's potentially significant impacts.

PROBABLE ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT:

IRWD has determined that all environmental topics, except for Agriculture and Forest Resources, Hazards and Hazardous Materials, Mineral Resources, Population and Housing, Public Services, Recreation, and Wildfire, will be included and analyzed in the EIR for the proposed Santiago Creek Dam Outlet Tower and Spillway Improvements Project.

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

ANTICIPATED SCHEDULE

A 45-day public review period will be provided with the Notice of Availability when the Draft EIR is complete, after which responses to comments received will be prepared. IRWD will then hold a public hearing and make a recommendation on certification of the EIR to the Board of Directors.

CONCLUSION

IRWD requests the public's careful review and consideration of this notice, and it invites any and all input and comments from public agencies and interested individuals regarding the preparation and scope of the Draft EIR.