The City *of*
SAN DIEGO
Public Utilities Department
Director's Office

May 10, 2019

Ms. Sharon Tapia, Chief
Department of Water Resources
Division of Safety of Dams
2200 X Street, Suite 200
Sacramento, CA 95818

Dear Ms. Tapia:

Subject: Lake Hodges Dam, No. 8-3
San Diego County

The City of San Diego (City) is nearing completion of a comprehensive assessment of the 100-year-old multiple arch concrete Lake Hodges Dam. This assessment includes evaluations of concrete deterioration, dam and foundation stability, hydrologic capacity and condition of the spillway, dam overtopping during a large storm event, emergency drawdown capability, and the instrumentation system to monitor dam performance.

This letter is meant to memorialize and seek input on actions the City plans to take to ensure Lake Hodges Dam continues to operate to our high standards. Public safety is our top priority and is the basis for the steps outlined below.

A plan is currently being developed to implement Lake Hodges Dam performance and safety improvements over the long term. This long-term plan will follow a holistic approach, considering the results of all evaluations and the need to integrate the various dam performance and safety improvements. We anticipate that this plan will be completed within a year, and consists of a summary of completed evaluations, identification of dam safety deficiencies, descriptions of proposed improvements to mitigate the deficiencies, summary of the work needed to further evaluate improvement alternatives, and proposed schedule for design and construction of improvements including cost estimates. During this one-year period the City will meet with the California Division of Safety of Dams (DSOD) to discuss the results of various analyses and the City's approach for making any necessary dam performance and safety improvements over the long term.

The City recognizes that it is prudent to restrict the reservoir to a lower water level until the completion of the comprehensive assessment, along with the any identified dam safety improvements. Based on consultation with and input from DSOD and GEI Consultants, the City will restrict the water level at elevation 295.0 feet U.S.G.S Datum (20 feet below the spillway crest level) as it will provide an interim risk reduction measure while the comprehensive assessment and dam safety improvements are completed. The City understands that the need for continuing or modifying the reservoir level restriction will depend on the results of the comprehensive assessment and related necessary dam safety improvements. The City will seek and obtain DSOD concurrence prior to changing the proposed reservoir storage level restriction.

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The proposed reservoir level restriction considers both the current dam conditions, performance and reservoir operation constraints to the City and other stakeholders including the San Diego County Water Authority (SDCWA), San Dieguito Water District and Santa Fe Irrigation District (Districts), such as the need to maintain a minimum reservoir level for SDCWA to continue pumped storage operations. The City and SDCWA jointly develop an Annual Operating Plan (AOP) for Hodges Reservoir, effective on July 1 of each year. The AOP considers the various uses of reservoir storage by both parties, as well as operational issues and constraints that affect movement of water into and out of the reservoir. The AOP contains reservoir elevation targets for the first day of each month, referred to as a guide curve, for the upcoming fiscal year as well as a projection (look ahead) for the next three years. Based on the current AOP, the target maximum reservoir level for the next three years is approximately elevation 295.0 feet. Therefore, based on conversations with DSOD and GEI Consultants, the reservoir level restriction at elevation 295.0 feet will be acceptable from the standpoint of reservoir use in the near term.

The Hodges Reservoir watershed is approximately 300 square miles and historically has produced about 7,600 acre-feet of median runoff per year. As such, there may be temporary excursions above the restricted elevation due to large runoff years. During these periods the City will take appropriate actions to move water out of Hodges Reservoir to limit the duration of these excursions. The City is developing a specific operating plan for lowering Hodges Reservoir should it rise above elevation 295.0 feet due to runoff. This plan is being developed in conjunction with SDCWA and the Districts to maximize the use of valuable local water supplies. We anticipate the plan will be finalized in advance of the rain season.

A draft protocol that triggers the use of the emergency blow-off system will be developed and submitted for DSOD review by August 1, 2019. The protocol will include the water elevation at which the City will be opening the blow-off system for releasing water, and procedures for required notifications to the public, local authorities and environmental agencies. The City will request DSOD concurrence prior to finalizing the protocol.

As an immediate action since the current reservoir level is above the proposed restricted level, the City and SDCWA have collaborated and initiated transfer of water out of Hodges Reservoir via Olivenhain Reservoir for delivery to the City's water treatment plants in accordance with an existing interagency agreement and considering water quality parameters described in the above mentioned AOP. The reservoir is currently at elevation 297.96 feet (on May 6), and we anticipate negligible runoff to the reservoir until the start of the next wet season. The reservoir will be lowered to elevation 295.0 feet by not later than August 1, 2019 by delivery of water to the Districts, use of SDCWA's pump station, and evaporation.

In addition, due to the age of the dam, there are localized areas of concrete deterioration, such as visible cracks, spalls, and exposed reinforcing steel. Leakage is also occurring through some of the joints and cracks in a number of the concrete arch barrels of the dam. As an immediate response, the City will repair specific areas of this concrete deterioration and install an instrumentation system to accurately monitor dam leakage. A concrete repair and leakage monitoring plan will be developed and submitted to DSOD for review and approval. Once the plan is approved by DSOD, the City will perform an environmental evaluation while concurrently developing a final design to implement the work. The City will

provide a proposed project schedule for implementation to DSOD once the environmental and contractual requirements have been clearly outlined.

We respectfully request a response to these actions, and appreciate your continued input and guidance moving forward. If you have any questions or need additional information, please contact Assistant Director, Rania Amen at (858) 292-6418.

Sincerely,

Matthew Vespi
Interim Director, Public Utilities Department

Cc: Rania Amen, Assistant Director, Public Utilities Department
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