

Published January 18th, 2023

Lafayette Reservoir Tower Seismic Retrofit Project could change look of iconic structure

By Lou Fancher



Rendering of Lafayette Reservoir tower would involve removal of the "house" at the tower's top and shortening the structure by approximately 40 feet. Photo courtesy EBMUD

height, if left unaddressed and subject to forces from a large earthquake, could suffer damage or complete structural failure due to high bending in the rebar embedded in the concrete walls of the tower. If damaged, the tower would not be able to fulfill its vital function as a spillway or outlet for the reservoir; an especially important role during seasonal atmospheric rivers and heavy, rapid rainfalls.

Bialek said the focus and highest priority of the EBMUD retrofit project is for the tower and conduits to remain viable and safe following an earthquake. In the last report to the council in 2017, it was explained that a suggested retrofit involving post tension anchors and base isolators was not approved by the DSOD. The recommended alternative was a tower shortening to address the seismic concerns and avoid long-term risks. She said the construction activities will begin in spring of 2024 and come in four phases: a temporary platform installation, tower sealing and dewatering, demolition to remove the top of the tower safely, and platform construction. No reservoir lowering is required, nor will public access be largely impacted, other than closures of 1-2 days while a large crane is moved into position. The loss of 8-10 parking spots for use during construction phases will be temporary.

During her presentation, Bialek showed renderings of what the tower will look like at different reservoir water levels when shortened by 40 feet. She emphasized the design plan is only 30% complete. The aesthetics of the redesigned tower - the iconic "house" is gone, a collapsible crane will be stored on the tower platform, and other visual elements - quickly became the topic receiving the greatest number of questions from the council. Several council members suggested it is likely, based on public comments in the past and at the meeting - and hypothetically, in the future - the tower design will receive considerable attention from the overall community.

EBMUD's community outreach plan includes notifications and media advisories issued for tours and forums designed for receiving public input, a project webpage with news and updates, presentations to community groups such as the Chamber of Commerce and Rotary clubs, and project signage. A water walk scheduled for Jan. 28 will be open to the public and invites people to walk around the reservoir and address their concerns and questions to EBMUD officials. EBMUD Director John A. Coleman and Jimi Yoloye, Director of Engineering and Construction, who joined Bialek at the city council meeting presentation, said they are likely to attend and be available at the reservoir walk.

Council members asked a number of questions about the reasons for eliminating the iconic house. In response, Bialek said to have included it in the retrofit would have negatively impacted the weight, and

Residents, visitors and people who enjoy outdoor recreation in Lafayette will want to take advantage of available opportunities to speak out about changes coming to what is arguably the city's most iconic symbol.

At the city council's Jan. 9 meeting, officials of the East Bay Municipal Utility District presented an update on the long-planned Lafayette Reservoir Tower Seismic Retrofit Project. While posing no imminent threat to Lafayette residents living along Lafayette Creek downstream of the reservoir, studies and evaluations performed in 2005 indicated the tower is highly vulnerable during a large earthquake and a retrofit is required. Roughly 1.5 million people visit the reservoir each year.

To help the council and members of the public understand the project's origin, scope and purpose, EBMUD Engineering Manager Elizabeth Bialek walked through Lafayette reservoir, dam, and tower history.

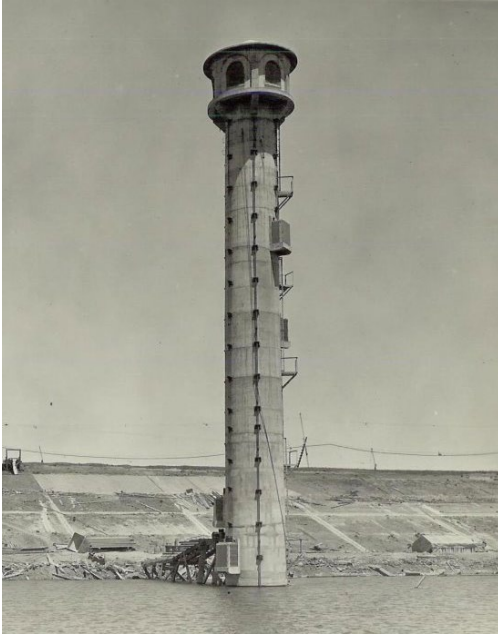
Constructed in 1927, the reservoir is not part of the district's water supply and is intended for use only as an emergency water source. The Lafayette dam is one of 25 managed and operated by EBMUD and falls under the oversight of the state's Division of Safety of Dams (DSOD). At 170 feet tall, the tower is 40 feet higher than necessary, a fact that resulted when the foundation of the original dam settled and a quick redesign lowered the dam 33 feet, but left tower plans unchanged. The 2005 studies showed the tower's extended, above-water

therefore, the safety of the new tower. The schematic drawings for the future platform shows that arched (instead of rectangular) openings in the platform were selected to reduce what could be a heavy, clunky profile and the platform's parapet walls were pushed to the greatest height possible to help mask the crane and items stored permanently on the tower.

Asked why and when the crane might be needed and if it had to be stored on the tower, Bialek confirmed it was necessary and said, "The current configuration is that it doesn't allow for repairs without bringing in a big crane for major work." Although that hasn't happened during her 27 years with the district, she said it was only because the tower has not had that level of damage. With safety as the central concern, Bialek reiterated that the design phase is only 30% complete and with calls for bids not going out until the end of 2023, there is time for input during project plan completion.

Council members requested that views from different elevations and options related to adding decorative touches to soften the tower's profile without reducing safety and functionality be considered during the months ahead.

Council Member Wei-Tai Kwok referenced the city's website imagery and stressed the tower's importance. He said, "If the tower was removed completely, what would we do? We might have to search for a different icon for our city. Maybe, as one of the speakers mentioned, it's a design opportunity to create something new and iconic that's beautiful and different from what we've seen before and is more appropriate for the height and size."



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