

## **South Reservoir Replacement**

### **Frequently Ask Questions (FAQ)**

#### **Why are we decreasing water supply when water use is expected to increase?**

EBMUD is not decreasing water supplies. EBMUD has two distinct water systems – the raw water supply system and the treated (potable) water distribution system. EBMUD’s raw water supply reservoirs include Pardee Reservoir located in the Sierra foothills and San Pablo, Briones, and Upper San Leandro Reservoirs located in the East Bay. These water supply reservoirs are used to capture seasonal runoff for the year. There are no current or future plans to downsize these raw water supplies.

South Reservoir is a water distribution reservoir that contains treated potable water. The reservoir was built in 1954, but it is over-sized for its current and projected future water demands. The replacement reservoir is sized to meet future demands projected out to 2040. Further, California has more stringent controls and regulations concerning drinking water. Water, like any fresh food product, ages and will go stale with time. Maintaining water quality for a reservoir that is much too large for the customers it services is extremely costly and operationally cumbersome for EBMUD, which is why the reservoir will be down-sized from its current capacity.

#### **Will there be periods of reduced water service during construction?**

No, there will not be any reduction in water service during project construction. Water service will be maintained from nearby water facilities during the reservoir outage.

#### **Why not install a sound wall during construction?**

No sound wall will be necessary as the majority of construction will be below the top of the slope within the existing reservoir basin bowl. The existing slopes will serve as natural sound barriers. Nevertheless, the contractor on this project will be required to stay within the County’s noise ordinance during construction. The County noise ordinance can be found at the following link: [http://library.municode.com/HTML/16425/level2/TIT6HESA\\_CH6.60NO.html](http://library.municode.com/HTML/16425/level2/TIT6HESA_CH6.60NO.html)

#### **Will earth movement and construction increase the risk of landslides?**

Based on a geologic and geotechnical site feasibility study, there are no mapped active landslides on the South Reservoir property. Earth movement and grading activities during construction are highly unlikely to cause a landslide on site. During construction, the contractor will be required to apply best management practices to minimize erosion and help protect slopes from failure.

**Will the tank roof be visible to neighbors? Will the new tank be taller than the existing height?**

No, the new tank will not be taller than the existing reservoir, which is approximately 40 feet tall. The new reservoir roof line will be at approximately the same elevation as the existing reservoir. However, EBMUD will incorporate new landscaping along the western and southeast edges of the reservoir site (near the top of the slopes) to improve screening of views of the tank.

**Can the tank be lowered or buried to make it shorter and wider?**

The new tank will be partially buried within the existing basin, but burying the tank any further is not necessary or possible. Burying tanks is expensive and creates maintenance and operational issues. The existing reservoir slopes will also remain and serve to screen the tank from view.

Further, the top and bottom water elevations are set by hydraulics. In a gravity-fed water distribution system, reservoirs rely on elevation or “head” to ensure adequate flow and pressure to customers. Lowering the elevation of the top of the tank to make it shorter would cause some customers to experience low water pressure, which would not meet EBMUD service requirements.

**Will the downsized reservoir affect fire flows?**

No, the downsized reservoir will not affect fire flows. In general, EBMUD reservoirs are sized such that 2/3 of the tank water storage is available for emergencies. The new South Reservoir storage volume is 8.5 million gallons. Based on a typical residential fire flow requirement of 2,000 gallons per minute for two hours, two-thirds of the 8.5 million gallons could supply fire flow for about 48 hours (two full days) if needed. If necessary, EBMUD can supplement fire flows from other storage and flow control valves located nearby in the water distribution system.

**How will the site be drained?**

EBMUD will seek to reuse and connect to the existing drains wherever feasible. In general, the goal is to maintain the existing drainage patterns on the site and utilize the existing storm drains. Once the reservoir is replaced, a new, more modern system of drains will be put in place near and around the tank and connected to the existing storm drain system.

**Why not replace a portion of the existing reservoir and roof and remove the rest of the roof and reservoir?**

South Reservoir is an existing embankment dam reservoir containing 50 million gallons of potable water. As part of this project, EBMUD is seeking to remove the existing dam embankment and eliminate the reservoir from the jurisdiction of the state of California’s Division of Safety of Dams (DSOD). In order to do so, a portion of the embankment must be removed and the basin re-graded so that it is below the DSOD’s jurisdictional size. The seismic hazard maps associated with earthen embankments of the existing reservoir continue to increase

costs and monitoring of dam embankments. Pre-stressed concrete tanks are an EBMUD and water industry standard that perform well seismically, are more cost efficient, and are designed for a 100 year life.

**Why must the existing grade be lowered on Gail Drive?**

EBMUD must demonstrate to DSOD that South Reservoir is no longer able to hold a large volume of water by removing a portion of the dam embankment. This is achieved by removing soil to create a “notch” or sizeable depression in any one of the embankments, thereby breaching the dam. During the planning process, notching and grading the existing access road on Gail Drive was found to have the least impacts and best alternative for breaching the dam.

**Why not build the tank under a portion of the existing roof so that it can be hidden?**

EBMUD has considered building a new tank within the existing reservoir roof and footprint for other open cut reservoirs and found that it is not feasible. The existing roof at South Reservoir was built in 1954 and does not meet current seismic design codes. The roof is also supported by a grid of columns spaced approximately every 20 to 25 feet in both directions. Any tank sizeable enough to hold the volume of water required at South would interrupt the column support grid for the existing roof. Further, work to construct and maintain a new reservoir within the existing reservoir roof is considered work in a confined space, which presents additional work hazards as well as significant additional expenses. Those hazards would remain for EBMUD workers after construction, which is not prudent.

**Will EBMUD sell any portion of the property near the perimeter of the site?**

EBMUD has no plans at this time to surplus or sell any property at the site. If the District deems any portion of the property to be surplus, EBMUD is bound by an entitlement process (Government Code 54220) which requires the agency to work with other local public agencies to offer surplus property for lease or sale for specific uses, in the following order: low income housing, municipal, county or regional parks, open space, school district facilities, and community redevelopment or transportation agency use. If no agencies respond, EBMUD would then be allowed to sell property to private entities at fair market value, and the environmental process for the surplus would fall on the new buyer. Further, EBMUD does not have the resources to maintain a park or playground on any portion of the property site. EBMUD has worked with community organizations and agencies to develop District sites for parks and recreation elsewhere, but these organizations committed to take responsibility for recurring maintenance costs as well as development costs through special assessments or other funds.