

#### ES.4 Project Description

As discussed above, to accomplish the objectives of the proposed project, the open-surface Upper Stone Reservoir would be replaced with a new buried concrete-covered reservoir. Other than manholes, hatches providing access to the interior of the buried reservoir, above ground vent structures, above ground electrical cabinets, and similar appurtenant facilities, water storage and distribution facilities would be essentially concealed underground after completion of construction. However, a paved road would still be required around the buried reservoir to provide vehicular access for maintenance and operations.

Certain constraints prevent the direct placement of a concrete roof over the existing Upper Stone Reservoir, which was constructed over 55 years ago. These constraints include the limited bearing capacity of the existing reservoir (i.e., the inability of the current reservoir and the sub-grade upon which it rests to support the load of the concrete roof system and the soil cover placed over the roof); and dam integrity and safety that could be compromised by penetrating the upstream side of the existing earth dam with numerous columns required to support the concrete roof. Therefore, to implement the proposed project, the existing Upper Stone Reservoir, including the inlet structure, outlet tower, and liner (the reservoir bottom and sides), would need to be demolished; the sub-grade beneath Upper Stone Reservoir would need to be stabilized to provide an adequate base to structurally support the buried reservoir; and a new perimeter concrete retaining wall would be required to support the concrete roof. The south segment of the new retaining wall would be located upstream of and functionally integrated with the existing earth dam, which would remain in place. The proposed buried reservoir would also require an impermeable liner and an extensive system of interior shear walls and columns to adequately support the roof and soil cover.

The combined weight of the buried reservoir, the water within the reservoir, and the soil layer atop the reservoir would exert tremendous downward force. If the areas below the proposed reservoir were not properly drained and water collected beneath, the upward force of buoyancy caused by the fluid pressure of the collected water could in turn damage the structure. Therefore, a sub-drain system would be installed beneath the buried reservoir liner to prevent water from collecting underneath. The water collected by the drain system would be directed to Lower Stone Reservoir.

The final footprint of the proposed buried reservoir would be slightly smaller than and contained within the footprint of the existing Upper Stone Reservoir, but because the side slopes and bottom would be reshaped to accommodate the required sub-grade drainage system, the total storage volume of the proposed buried reservoir would be slightly greater (by approximately 6 MG) than the existing reservoir.

Preliminary geotechnical analyses of the area surrounding Upper Stone Reservoir indicate that most areas are geologically stable and do not present a general concern relative to the proposed project. However, the slopes immediately east of the reservoir have experienced several relatively recent and moderately significant landslides (one in 1956 and two in 1969) that were caused by the adverse bedding of sedimentary layers resting on a clay soil plane. If a similar landslide were to occur in this area after the implementation of the proposed project, the buried reservoir could be seriously damaged. Because of the significant cost of the buried reservoir and because repairs necessitated by such a landslide event could remove the buried reservoir from service for a lengthy period and require major construction and investment, including entirely demolishing and rebuilding the reservoir, these potential landslide areas would

need to be stabilized as part of the proposed project. The potential landslide areas encompass approximately 20 acres in three separate zones.

The proposed buried reservoir would be covered with a maximum of 3 feet of topsoil and planted with native species typical of the canyon environment and surrounding area. This would help fulfill the secondary objective of the project to restore the natural character of those portions of the canyon involved in the improvements required to meet the primary water quality and water storage objectives of the project. As mentioned above, a buried structure is the only means to achieve this restoration. Nonetheless, to achieve this objective, the proposed project would require a substantial financial investment (approximately \$140 million over a 60-year life cycle, the large majority of which would be initial capital costs rather than long-term maintenance expenditures). This cost would essentially be borne by the citizens of Los Angeles, who provide revenue to LADWP through the purchase of drinking water. Based on this investment by LADWP ratepayers, under the proposed project, the benefits of Upper Stone Canyon would be made available to a broader segment of the population of the City rather than merely helping to restore the natural appearance and character of the canyon. In this regard, the proposed buried reservoir project is predicated on providing public access to Stone Canyon in the form of a pedestrian trails system. Public access to Stone Canyon is a component of the proposed project based on the public investment in the buried reservoir, but it is neither a primary nor secondary objective of the project. Furthermore, public access would not be a component of alternatives to the proposed project that would not provide some form of buried water storage facility.

To provide for public access at the SCRC, pedestrian trails would be created within portions of the property. However, the SCRC is and will remain an LADWP operational complex devoted to the storage, treatment, and distribution of drinking water supplies. In addition to Upper Stone Reservoir itself, facilities related to these functions include numerous chemical storage stations required to maintain water quality and distribution system integrity. These include the new chlorination station located west of Upper Stone Reservoir and several chemical storage stations located along the roadway that runs to the west of Lower Stone Reservoir. The recently completed water filtration plant is located south of the Lower Stone Reservoir dam, and a number of appurtenant facilities related to water storage and treatment are located throughout the SCRC, including a diversion structure just north of the upper reservoir. The Los Angeles Fire Department (LAFD) also maintains a helicopter landing area just north of the reservoir. The helicopter landing area includes a fire hydrant system to obtain water for aerial firefighting. In an action not related to the proposed project, this helicopter landing area will be relocated prior to the initiation of project construction to a site approximately 750 feet north of the upper reservoir, adjacent to the SCRC access road. Upper Stone Reservoir is not used to obtain water by helicopter for aerial firefighting. However, in certain circumstances the County of Los Angeles Fire Department may use Lower Stone Reservoir to obtain water by helicopter. No changes to Lower Stone Reservoir that would affect this capability are proposed under the Upper Stone Canyon Reservoir Water Quality Improvement Project. Public access to areas within the SCRC containing these facilities would create potential safety, security, hazards, and vandalism conflicts. In addition, the primary site access road entering the site at Mulholland Drive represents a potential safety conflict because it is relatively narrow and winding and is frequently used by large trucks to deliver materials and supplies related to water operations to the SCRC facilities. Furthermore, while no longer a treated water storage facility, Lower Stone Reservoir, because it was formed by damming a natural canyon, is characterized by deep water and steep embankments along its entire perimeter, creating a potential hazard if the public was given direct access to the area surrounding the reservoir. Therefore, public access to the SCRC

would be limited to a trails system that would be segregated from the operational elements of the complex and Lower Stone Reservoir by new boundary fences.

The conceptual plans for public access would entail establishing a parking area along the east side of the SCRC access road at an existing relatively level pad located approximately 0.25 miles south of the Mulholland Drive access gate. Although this proposed location of the parking area would create some potential conflicts between private vehicles and LADWP vehicles sharing this segment of the road, it would minimize the requirement for extensive fill to create a flat pad for parking along the east side of the access road, which runs adjacent to a natural drainage course between the entry gate and the proposed parking area. With relatively minimal grading, off-road parking for approximately 25 vehicles could be provided at this location. A new gate would be installed on the road just southwest of the parking area to preclude access by all but LADWP-related vehicles. A new LADWP guardhouse would be located at this gate. The guardhouse at the existing Mulholland Drive gate would be removed, but a gate to prevent after-hours (between dusk and dawn) public access to the SCRC property would remain at Mulholland Drive. No other amenities would be provided in association with the public access function.

A trailhead would be established at the parking area, and a trail would cross generally eastward in the northern portion of the SCRC and proceed southward in the eastern portion of the SCRC property. A trail would also be established starting at the parking area and proceeding southward in the western portion of the property. Both the eastern and western trail segments would provide overlook opportunities of Lower Stone Reservoir, but, as discussed above, access to the lower reservoir itself would be unavailable. Trail segments also would be established on the buried Upper Stone Reservoir itself. Access to the buried reservoir surface would be available from the eastern trail segment because no crossing of the LADWP operations road, which runs along the west side of the reservoir, would be necessary. Conversely, access to the buried reservoir surface would not be available from the western trail segment because a pedestrian crossing of the LADWP operations road would be prohibited.

New boundary fences would be selectively located to restrict access to the road along both sides from the LADWP control gate south. The fences would encompass within the LADWP operations portion of the property certain facilities located north of the upper reservoir, including the diversion structure and the LAFD helicopter landing area. The boundary fence would also establish a buffer zone around the existing chlorination station. Additional segments of fencing would be installed to prevent access to Lower Stone Reservoir where natural topographic barriers were absent. This selective placement of security fencing would prevent public access to restricted areas but still allow for wildlife movement within the SCRC, especially continued access to the lower reservoir.

The exact placement and extent of the proposed trails system would be subject to a future planning and design process involving stakeholders such as LADWP, LADRP, the Santa Monica Mountains Conservancy, and members of the communities neighboring the SCRC.

### ES.4.3 Project Operations

The new water storage facilities would not create the need for LADWP personnel to be located permanently on site. LADWP operations on site would involve maintenance of the reservoir, pipelines, and ancillary elements at a similar level of activity as current operations at Upper Stone Reservoir. These operations would generate minimal traffic to and from the site, similar to current levels.

The SCRC property would remain under the ownership of LADWP, which would continue to have the primary maintenance responsibilities at the site, but the operation and maintenance related to the trails access function would be the responsibility of LADWP and/or the Santa Monica Mountains Conservancy. The trails would be open to pedestrians only. Bicyclists could access the SCRC as far as the parking area, but no bicycles would be allowed on the trails themselves. Public access would be provided during daylight hours only, and the gate at the Mulholland Drive entrance to the site would be opened in the morning and closed at dusk. Formal picnic areas would not be provided. Smoking and any type of fires, whether a camp fire or the use of a cooking stove, would be prohibited. Informational and regulatory signage would be posted at the parking area and along the trails. No other amenities would be provided in association with the public access function. Parking would be provided for approximately 25 vehicles for trails users. The parking area would permit vehicles to be parked entirely off the road surface to minimize conflicts with LADWP delivery vehicles. Parking along the access road itself would be prevented with a combination of signs and barriers.

In order to assess potential environmental impacts related to public access at the SCRC, several assumptions have been made as follows regarding the anticipated level of visitor use of the trails system based on a maximum number of 25 parking spaces. Based on the availability of parking and on general neighborhood access, in comparison to other locations in the Santa Monica Mountains near Stone Canyon that offer similar recreation experiences (e.g., Franklin Canyon Park and Runyon Canyon Park, which are located approximately 3 and 5.5 miles east of Stone Canyon, respectively), the number of parking spaces that would be provided at the SCRC to support trail access would represent a limiting factor related to the number of visitors that might be expected. The level of use would vary between weekend days and weekdays. On weekend days, the average occupancy for vehicles would be 1.5 people. This would result in a peak use of about 38 visitors on site at a single time, assuming the parking area was fully occupied. However, the parking area would not be expected to be fully occupied throughout the day. Given the nature and size of the proposed trails elements, visitors would be expected to stay approximately 1 to 2 hours at the SCRC, and there would be a turnover of visitors leaving and entering the site during the day. Based on such factors as weather and holidays, the rate of this visitor turnover may vary considerably from weekend to weekend throughout the year, but an average rate of 2 full turnovers per weekend day has been assumed (i.e., 50 visitor vehicles would enter and leave the site during the day). Based on the assumed average vehicle occupancy of 1.5, this turnover rate would result in an average of 75 visitors per day at the SCRC on weekends. As on weekend days, the rate of visitor turnover on weekdays may vary considerably from week to week throughout the year, but the average turnover rate on a weekday is assumed to be half that of a weekend day (i.e., 25 visitor vehicles would enter and leave the site during the day). The average occupancy of vehicles would be greater than 1 but less than the 1.5 average for weekend days, resulting in an average occupancy of 1.25 people per vehicle. This turnover rate and vehicle occupancy would result in an average of 31 visitors per day at the SCRC on weekdays. Based on these factors, an average of approximately 16,000 recreation users would visit the SCRC on an annual basis.