

Park WaterMark

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Tunnel vision

There are several ways to construct a new tunnel like the one to be built for the Mission Trails Project. Two common techniques are tunnel boring, which involves a machine with a large tool that drills into the rock, and drill and blast. The drill and blast method involves drilling a number of small holes into the rock, filling those holes with explosives, and then detonating the explosives to collapse the rock.



Typical tunnel portal. Similar to the portals that will be constructed for the Mission Trails Project.

The method selected is dependent upon the type of earth, rock, or soil in the area where the tunnel is being constructed. Geotechnical drilling conducted in Mission Trails Regional Park during the design phase of the Mission Trails Project concluded that the rock, particularly along the northern tunnel alignment, is extremely hard. The tunnel designer determined that the best way to construct a large portion of the North Tunnel would be to use the drill and blast method.

Drill and blast has been practiced for several centuries. It is successfully used to construct tunnels throughout the world, including the longest road tunnel in the world, the Lærdal Tunnel in Norway, which is a little more than 15 miles long.

The San Diego County Water Authority has conducted several other drill and blast projects throughout San Diego County and takes every precaution to ensure the safety of neighbors and

structures. The Water Authority conducts pre- and post-blast surveys of surrounding homes close to the blast sites, monitors the blast noise and vibrations, and uses a warning system prior to each blast to alert park neighbors of upcoming blasting activities. Additionally, blasting will meet or exceed all federal and state regulations and laws.



Mission Trails Project tunnel alignment.

What does the Mission Trails Project include?

Mission Trails Flow Regulatory Structure II

Mission Trails FRS II, an underground water tank, will be constructed to improve pipeline flows. The tank will be underground, with a small access building above ground.

Mission Trails Pipeline

A new section of pipe will be installed in a tunnel to replace two smaller untreated water pipeline sections. The pipeline tunnel will be nearly one mile long and will provide more water to the water treatment plants in the southern and central portions of the county. Most of the construction work on the pipeline tunnel will be conducted underground.

Vent Demolition

All of the blue pipeline stacks that are visible in the park will be removed.

Reliability through rehabilitation

In addition to the pipeline tunnel and flow regulatory structure, the Water Authority will be working on another water reliability project in the park beginning in 2008. The Mission Trails to Lake Murray Pipeline 3 Relining Project will rehabilitate and extend the life of an aging pipeline that delivers water to the

Alvarado, Sweetwater, and Lower Otay water treatment plants, which provide water to customers in central and southern San Diego County. Rehabilitating this section of pipeline became a priority for the Water Authority after it suffered a failure in May 2006.

Pipeline relining involves inserting steel liners into the existing pipes, reinforcing them to help prevent water leaks and breaks. Most of the work will be conducted underground, entering the pipeline at 11 different locations, or portals. There are six portals located within the park. The remaining five are located in San Carlos.

The project team has attended the Mission Trails Citizens Advisory Committee and Task Force meetings, as well as various community group meetings with the Belsera Homeowners Association, and in San Carlos and Tierrasanta to inform residents about this project. The team will continue to provide updates to these groups and residents throughout the relining process.

Relining activities will occur in the park and in San Carlos for approximately one year, during the same time the Mission Trails Project pipeline tunnel and FRS II are being constructed. For more information about the relining project visit <http://www.sdcwa.org/infra/cip-missiontrailsrelining.phtml> or call the toll-free project information line at (877) 682-9283, Ext. 7005.



A steel liner section being lowered into the portal to be inserted into the existing pipe.

What happens after construction?

The Water Authority appreciates the natural beauty of Mission Trails Regional Park and understands the impacts major construction will have on the natural surroundings. That's why the Water Authority is committed to restoring all construction and staging areas to pre-construction conditions, or better. Upon completion of construction of all components of these two projects, the Water Authority will contract with an experienced habitat restoration firm to conduct a comprehensive revegetation effort in all project areas. This will help ensure restoration of all areas touched by construction will be uniformly restored to be compatible to the existing habitat.

Successful erosion control measures at the location of the 2006 pipeline break in Mission Trails Regional Park.



What's Next

- Early 2008:** Mission Trails Project construction contracts awarded
- Early 2008:** Pipeline relining construction contract awarded
- Early 2008:** Mission Trails Project and relining construction begins
- Early 2009:** Relining construction completed
- Early 2010:** Mission Trails Project construction completed

For more information, call the toll-free project information line below and a member of the project team will return your call within one business day. Project information is also available on the Water Authority's website.

(877) 682-9283, Ext. 7004 www.sdcwa.org

Another way to ensure water reliability for the future is through water conservation efforts. The Water Authority encourages all residents to participate in the **20-Gallon Challenge**, to save 20 gallons of water per person, per day. For more information and tips about this and other conservation programs, please call (800) 986-4538 or visit the Water Authority's website.

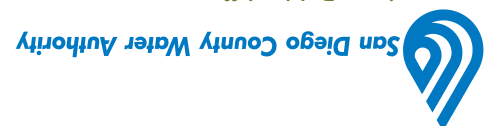


The Water Authority is a public agency serving the San Diego region as a wholesale supplier of water. The Water Authority works through its 24 member agencies to provide a safe, reliable water supply to support the region's \$150 billion economy and the quality of life of 3 million residents.

Learn more about the Mission Trails Project inside!

Mission Trails Project Newsletter

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