

# ESP UPDATE



Summer 2007 Edition

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*The Emergency Storage Project is a system of reservoirs, interconnected pipelines, and pumping stations designed to make water available to the San Diego region in the event of an interruption in imported water deliveries.*

*The Emergency Storage Project is part of the San Diego County Water Authority's Capital Improvement Program to enhance and increase the operational flexibility of its water delivery system.*

*This newsletter is one way the San Diego County Water Authority is keeping communities like yours informed about the project's progress.*

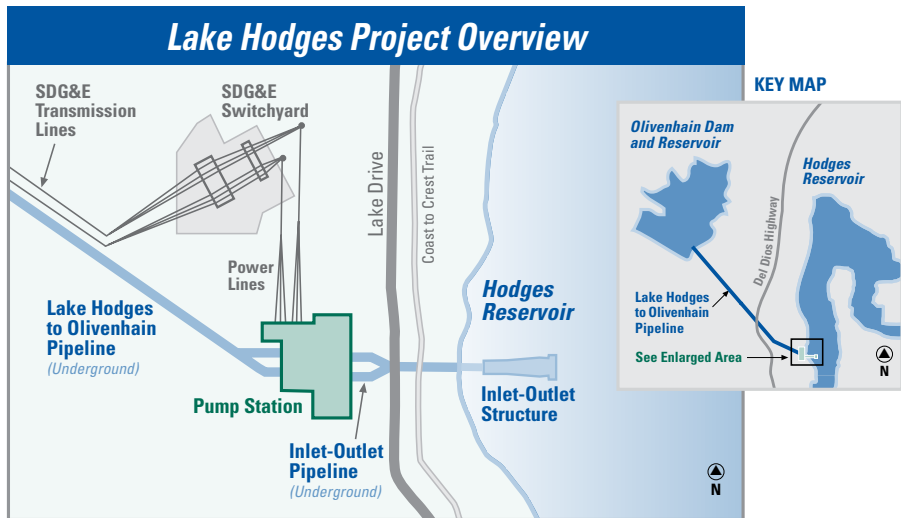
*For more information, please call toll free (877) 426-2010 or visit our website at [www.sdcwa.org](http://www.sdcwa.org).*

## Hodges Pipeline Complete; Pump Station Construction Beginning

The Lake Hodges to Olivenhain Pipeline is now complete. The contractor put the finishing touches on the 1.25-mile pipeline in June and has moved off the project site. The team is now focused on constructing the pump station and inlet-outlet structure and anticipates completing all construction activities by late 2008.

When the pump station is complete, the new pipeline will connect Olivenhain Reservoir to the Hodges pump station. Another smaller pipeline will connect the pump station to the inlet-outlet structure, located below the surface of the reservoir (see diagram). The structure will draw or discharge water back and forth between Hodges Reservoir and the pump station.

The contractor has completed excavating the 120-foot-deep hole that will house the pump station below ground and started construction on the pump station building. Excavation of the 200-foot pipeline tunnel between the pump station and the reservoir is under way and scheduled to be complete late this summer.



*The Lake Hodges to Olivenhain Pipeline was completed in June and now the contractor is working on the pump station, inlet-outlet structure, and switchyard.*

## Capturing Renewable Energy at Hodges

San Diego Gas & Electric started work in May on an electric switchyard at the Lake Hodges Projects site. The switchyard will capture the renewable energy generated by turbines within the Hodges pump station. Construction of the switchyard is expected to be complete in early 2008.



*The temporary cofferdam holds back water while the inlet-outlet structure is built.*

The main purpose for the Lake Hodges Projects is to allow the Water Authority to store up to 20,000 acre-feet of water in Hodges Reservoir to be used if an earthquake, drought, or other disaster interrupts the region's imported water supply. In planning the project, Water Authority staff recognized that the 770-foot elevation difference between the Olivenhain and Hodges reservoirs provided an opportunity to generate hydroelectric power.

*See HODGES on page 2*

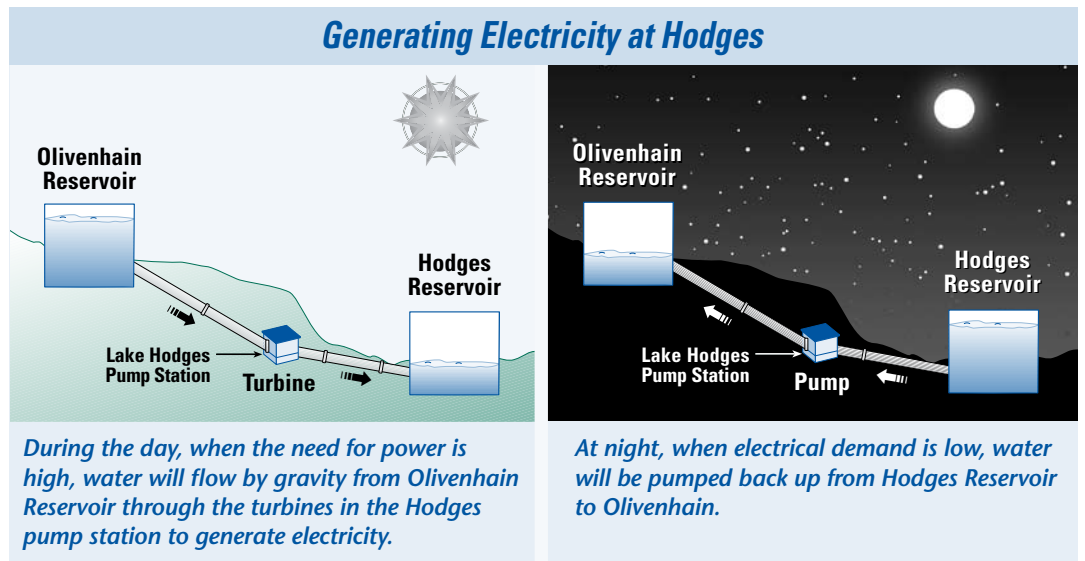


San Diego County Water Authority

Capital Improvement Program

**HODGES** *continued from page 1*

When all parts of the Lake Hodges Projects are complete in 2008, they will create enough power annually to sustain nearly 26,000 homes. Water will flow down the pipeline from Olivenhain to Hodges during the day when the need for power is high. The flow of water will generate power that will be transmitted to the SDG&E switchyard, then to the existing local transmission system. At night, when electricity costs are low, water will be pumped back up from Hodges Reservoir to Olivenhain Reservoir.



*Graphic shows the typical operation of the Lake Hodges Pipeline and Pump Station.*

The captured energy will provide renewable energy to SDG&E customers, and revenue to help pay the operating costs for the Hodges facilities and other Water Authority programs that ensure a reliable water supply for the county.

**Three Machines Now Tunneling the San Vicente Pipeline**

One hard rock tunnel boring machine and two digger shield machines are working simultaneously to excavate the tunnel for the 11-mile San Vicente Pipeline. The hard rock tunneling machine is moving forward steadily from the West Shaft near I-15 and the Mercy Road exit. This machine will tunnel three-quarters of a mile eastward until it reaches softer ground.

A digger shield tunneling machine is working from the Central Shaft on the 21,700-foot-long tunnel section that will meet up with the West Shaft tunnel. With a pick and shovel mechanism at the front end, the digger shield is tunneling through conglomerate materials consisting of sand, pebbles, and cobblestones hundreds of feet underground.

**Controlled Blasting for Short Section Under Scripps Ranch**

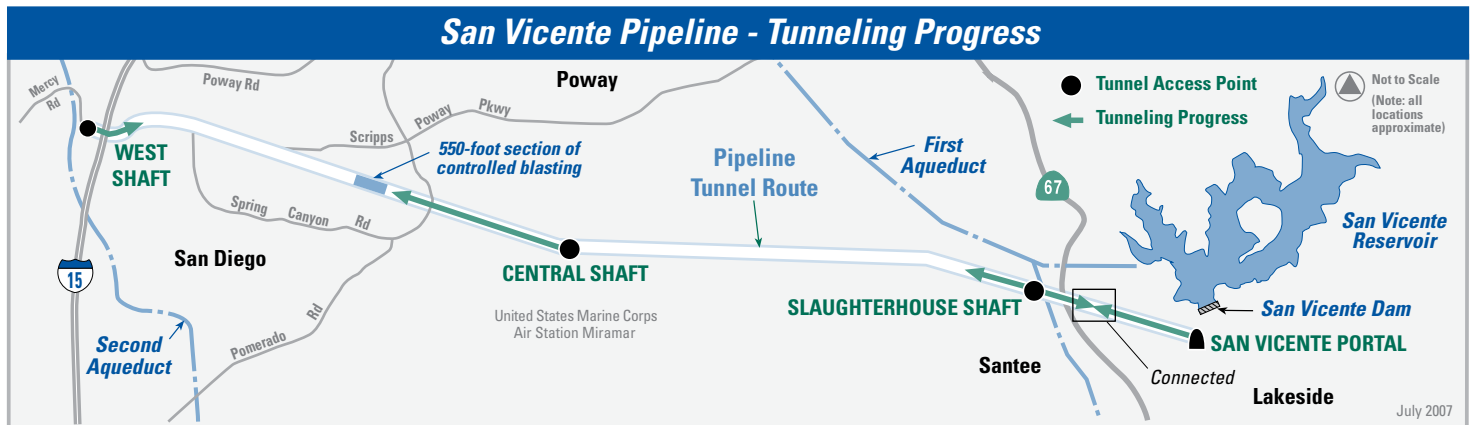
Soon, the Central Shaft tunneling machine will need to take a break while a short 550-foot section is tunneled using controlled

blasting techniques. Geotechnical drilling has found rock in this section that is too hard to use the digger shield alone. Other than possible slight short-term vibrations, nearby homeowners should not be aware of the blasting activities occurring more than 200 feet below ground.

**Third Tunneling Machine Moving Forward from Slaughterhouse Shaft**

A digger shield machine was inserted at the Slaughterhouse Shaft, and is now moving westward toward the Central Shaft. Controlled blasting tunneling techniques excavated the first 1,865 feet of tunnel from the Slaughterhouse Shaft going west. This digger shield is picking up in the conglomerate material where controlled blasting tunneling efforts left off.

Concrete tunnel liners are being delivered through the San Vicente Portal. The liners support the tunnel behind the machine and also provide strong support for the machine as it pushes forward.



*The San Vicente Pipeline is an 11-mile tunnel and a large-diameter pipeline that will connect San Vicente Reservoir in Lakeside to the Water Authority's Second Aqueduct. The pipeline will function with other Water Authority facilities to provide water to the region in an emergency. The depth of the tunnel ranges from 50 to 550 feet underground. The tunnel will not pass directly under any homes.*

## Pumping Facilities Project on Schedule

Construction for the San Vicente Pumping Facilities is moving forward. In an emergency, these facilities will help move water from San Vicente Reservoir through the San Vicente Pipeline to the Water Authority's Second Aqueduct. In September, the contractor will complete controlled blasting for the surge control facility, which will help protect the 11-mile San Vicente Pipeline from extreme pressure fluctuations. Over the next six months, work for the surge tank will include pipe installation and excavation of the basin to hold the tank.

This summer, the contractor began work on the pump station, which will pump water from San Vicente Reservoir to the surge tank. About 3,000 cubic yards of concrete will be placed for the pump station foundation. For perspective, the foundation takes up about the same space as four high school basketball courts. Concrete pouring will continue through March 2008. This fall, the contractor will begin installing pipelines for all the project components. The project is expected to be complete by mid-2009. 💧

## San Vicente Reservoir Closure Schedule

This summer through Sept. 30, 2007, San Vicente Reservoir will be open for its normal summer schedule of Thursday to Sunday from sunrise to sunset. Due to construction activities for the pumping facilities, the reservoir will be closed on weekdays from Oct. 1, 2007, through April 30, 2008. The reservoir will be open Thursday through Sunday for its summer schedule in 2008 until

the water drops below the level of the boat launch ramp. Starting mid- to late-2008, the reservoir will remain closed every day of the week for construction of the San Vicente Dam Raise project. The reservoir will reopen for recreation sometime between 2014 and 2017, as soon as the water level reaches the new boat launch.

*For up-to-date information on the reservoir closure schedule and the San Vicente Pumping*

*Facilities project, please visit the Water Authority's website at [www.sdcwa.org](http://www.sdcwa.org). Click on "Infrastructure," then "ESP," then "San Vicente Pumping Facilities."* 💧

### San Vicente Reservoir Closure Schedule

	Thurs. & Fri.	Sat. & Sun.	Mon. - Wed.
May - Sept. 2007	Open	Open	Always Closed
Oct. 2007 - April 2008	Closed	Open	Always Closed
Mid- to late-2008 through Dam Raise Construction & Refill	Closed	Closed	Always Closed
The reservoir will reopen to recreation sometime between 2014 and 2017, as soon as the water level reaches the new boat launch.			

Open

**Due to recent dry conditions, the city of San Diego cannot guarantee the reservoir will be kept at boat launching levels. See the city of San Diego's website for up-to-date information at [www.sandiego.gov/water/recreation](http://www.sandiego.gov/water/recreation).**

## Draft Carryover Storage Environmental Study Due Out Later This Summer

The Water Authority is preparing the draft environmental study for the Carryover Storage and San Vicente Dam Raise project. It is expected to be available for review in late summer 2007.

The purpose of this project is to establish an additional 100,000 acre-feet of carryover water storage capacity for the region. Carryover storage is a process of collecting water during wet years when it is plentiful, keeping it in storage, and carrying it over for use in subsequent dry years when there is a shortage.

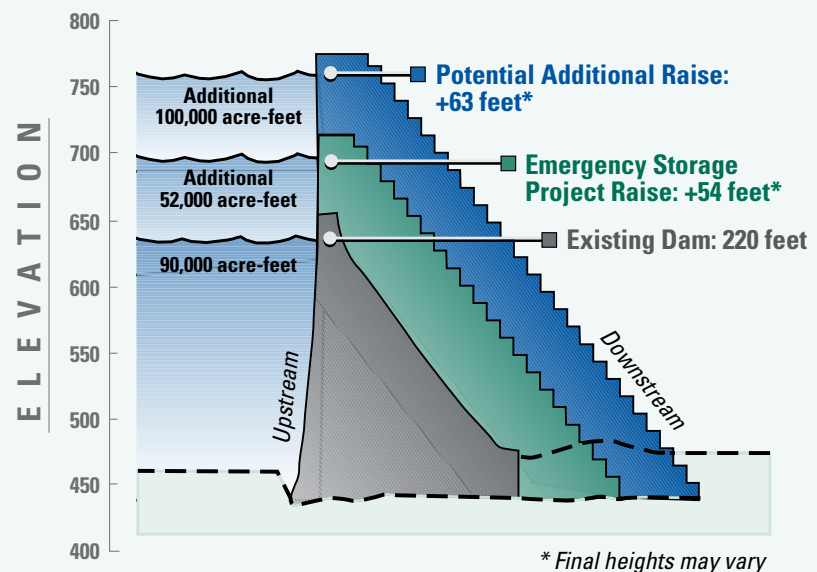
The document will assess the environmental and human effects of implementing the Carryover Storage Project at San Vicente Reservoir in Lakeside (the Proposed Action) and at an alternative location in Moosa Canyon in Valley Center. The Proposed Action is to raise San Vicente Dam an additional 63 feet, beyond the 54 feet it will be raised as part of the Emergency Storage Project.

After the draft study is released, the public will have 45 days to submit written comments on it. In addition, two public hearings will be held, one in Lakeside and one in Valley Center, to receive verbal comments from the public on the document. A letter will be mailed announcing the release of the study and providing public comment information.

For more information or to receive a notice announcing the availability of the environmental study, please call the toll-free project information line at **(877) 426-2010** or email

**[ESPinfo@sdcwa.org](mailto:ESPinfo@sdcwa.org)**.

### San Vicente Dam Raise



*The Water Authority will raise San Vicente Dam 54 feet for the Emergency Storage Project. The draft environmental study that proposes to raise the dam an additional 63 feet will be released in late summer 2007.*



## Community Members Share Knowledge with Dam Raise Team

Before launching a major project like the San Vicente Dam Raise, Water Authority staff tries to learn what community members nearby already know about the project, find out any potential impacts, and learn the best ways to keep community members informed throughout the project. To do this, the public affairs staff at the Water Authority conducts interviews with people who represent a range of interests and activities in the community. Interviews like these were successful for both the Olivenhain Dam and San Vicente Pipeline projects.

For the San Vicente Dam Raise project, staff interviewed Lakeside community members and leaders from organizations including the Lakeside Chamber of Commerce, Lakeside Design Review Board, Lakeside Historical Society, Lakeside Water District, and other organizations.

Water Authority staff also wanted to learn more about the San Vicente recreational community because the reservoir will be closed for a number of years during construction. Staff interviewed representatives from the San Diego Council of Bass Clubs and Southern California Water Sports Association, and San Vicente Reservoir wake boarders.

The Water Authority appreciates the time all of the representatives took to share their knowledge. The project team will use the information they learned to keep community members better informed throughout the San Vicente Dam Raise project. 💧

For more  
information

about the San Diego County Water Authority's  
**Emergency Storage Project,**  
please call toll free (877) 426-2010  
or visit our website at: [www.sdewa.org](http://www.sdewa.org).

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San Diego County  
Water Authority

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*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.*