

Water tunnel project set to begin soon

Ken Miguel, KGO (San Francisco television), 7-2-11

SAN FRANCISCO -- In just a couple of weeks, construction crews will fire up a massive digging machine that will cut the longest tunnel under San Francisco Bay. The project is part of a multi-billion dollar retrofit of the aging Hetch Hetchy water system, which supplies water to more than two million people.

When the Hetch Hetchy pipeline was first constructed over the San Francisco Bay, there were few environmental concerns, but today it runs near a wildlife refuge, so sounds and movements need to be minimized so as not to disturb the wildlife. Several steps also need to be taken to protect the endangered species in the area.

From the ground, it's not apparent what will take place along the former salt marsh near the Dumbarton Bridge, but upon a closer look, an 11-story deep hole that will serve as the gateway for a new water pipe is visible. The pipe will serve millions of people in the Bay Area with water.

"It will be the first tunnel under the San Francisco Bay," said project manager Johanna Wong.

Unlike the BART tunnel, which was constructed from a series of tubes that rest on the bottom of the bay, the five-mile tunnel will actually be carved out of the earth under the bay from Menlo Park to Newark.

At the bottom of the huge hole, workers are assembling a 600-foot-long, \$10 million digging machine that was made in Japan and shipped in over 65 crates.

"It has six 200-horsepower drive motors that turns this cutter head," said construction project manager Jim Stevens while showing off a diagram of the digging machine.

The science-fiction-like machine will have the power to tear through up to 50 feet of mud, sand and rock every day, sending it out of the tunnel on a conveyor belt. The tunnel will be lined with concrete to re-enforce the opening and protect the workers.

"This is really one of the most safe tunnels that you can work in because they (the workers) are never exposed to the dirt rock, whatever is there," Stevens said.

In just a few weeks, workers will begin to drill.

"Now it's really crunch time," said tunnel operations engineering manager Kit Fleming, "in terms of checking every detail and making sure we're happy with how everything gets started."

The old pipes, built in 1925 and 1936, have reached the end of their lives. Engineers say the existing pipelines that run over the bay won't survive a major earthquake -- a failure would jeopardize the water supply for millions of people. The bay tunnel, however, is designed to withstand a big quake on both the San Andreas and the Hayward faults.

"When the tunnel is constructed, we will be able to take the existing pipes out of operation," Wong said.

Voters passed a \$4.6 billion bond measure in 2002 to fund a massive overhaul of the Hetch Hetchy water system. The network of pipes, tunnels, dams and reservoirs deliver water 167 miles from Hetch Hetchy reservoir in Yosemite National Park to Crystal Springs Reservoir along I-280 in San Mateo County.

The tunnel is scheduled to be completed in 2015 and will cost more than \$313 million.