

## TEMPE TOWN LAKE



WESTERN DAM REPLACEMENT

### GET THE LATEST NEWS AND INFORMATION

The City of Tempe is committed to bringing you timely reports regarding the progress of the western dam replacement project.

Here's how to ensure you are in the know:

[www.tempe.gov/damreplacement](http://www.tempe.gov/damreplacement) - all information on the dam replacement project will be posted to this webpage

**Sign up for emails:** Visit [www.tempe.gov/enews](http://www.tempe.gov/enews). Fill out the information requested then scroll down to News and click on the box for Tempe Town Lake Updates. You will receive an email from the City of Tempe to confirm your subscription. Once you have confirmed your subscription, you will receive news on Tempe Town Lake and the dam replacement project.

**Follow the City of Tempe on social media:** While this method is less direct, we will post information on social media about the project. [www.facebook.com/cityoftempe](http://www.facebook.com/cityoftempe) or [www.twitter.com/tempegov](http://www.twitter.com/tempegov)

**Tempe 311:** Call 480-350-4311 for any other needs.

## TEMPE TOWN LAKE WESTERN DAM REPLACEMENT

The City of Tempe is replacing the western dam at Tempe Town Lake with the world's largest hydraulically-operated steel gate dam. This is a reliable and cost-effective solution that is expected to last for decades.

### Chosen technology

The steel gate system will consist of eight fabricated steel gates mounted on a new concrete foundation and new reinforced concrete spillway slab approximately 100 feet downstream from the existing rubber bladders. Each gate will be approximately 107 feet long and 17 feet high, weighing approximately 230,000 pounds. The new piers will be about 9 feet wide on the upstream side and 4 feet wide on the downstream side.

The Tempe City Council selected hydraulically-operated steel gates in January 2012 as the preferred technology for the Tempe Town Lake western dam after carefully reviewing many alternatives. The steel gate system offers high levels of safety, reliability, durability and flow flexibility while allowing Town Lake to transition into a river during major flow events.

### FUNCTION

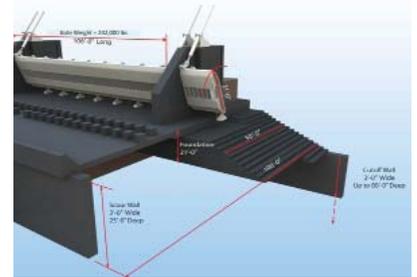
The dam will maintain normal water lake elevation. In case of larger upstream flows from the Salt River, Indian Bend Wash, storm drain inflows, and direct rainfall, the gates will be lowered to pass flows and raised to capture the tail end of a flow event in order to re-establish the lake. Watch a video rendering of this at [www.tempe.gov/damreplacement](http://www.tempe.gov/damreplacement).

### COST

Total project costs are estimated at \$40.8 million. The city will pay for the dam using cash reserves and voter-approved bonds. This is the city's most significant capital project since the construction of the lake itself, which opened in 1999.

### PARTNERING WITH INDUSTRY EXPERTS

This project uses many local companies. Tempe-based PCL Construction is the prime contractor. Gannett Fleming, with offices in Phoenix, is the engineering consultant. Steel Fab is fabricating the gates using Schuff Steel to do much of the work. Schuff Steel is based in Phoenix, saving transportation costs for the gates.



## PROJECT TIMELINE

According to the city's 2010 lease agreement with Bridgestone, the existing rubber dams must be replaced by Dec. 28, 2015. Since this is a large-scale public works project, the western dam replacement has been broken into phases, some of which occur simultaneously:

### 1) Design

The design process was completed by Gannett Fleming in March 2014.

### 2) Permits and regulatory approvals

The city works with a number of regulatory agencies, including the Arizona Department of Water Resources, U.S. Army Corps of Engineers, Maricopa County Flood Control District and the Federal Emergency Management Agency.

### 3) Relocate stormwater line

Crews will relocate a key stormwater line that runs south-north from the TCA building to the stilling basin downstream from the existing dam. The 108-inch pipe that is west of the existing rubber dam must be relocated further west so that stormwater can drain away from the new dam.

During this phase, the Town Lake Pedestrian Bridge is expected to remain open, but access to the sidewalk path near Tempe Center for the Arts will be restricted and there may be detours around to the south side of the Tempe Center for the Arts.

### 4) Manufacture the gates

Gates are being designed and built by Steel Fab and Schuff Steel. They will be delivered to the site one-by-one for installation in early 2015.

### 5) Construction

Through the end of 2014, construction teams will work on relocating stormwater lines and building vertical concrete abutment walls. The foundation work for the new dam will also start in late 2014.

Crews will use more than 47,000 cubic yards of concrete to construct the foundation, piers, abutments, scour walls, cut-off walls, stilling basin and control building.

The steel gate installation will take place during 2015 and the entire dam structure will be completed and operational by the end of 2015.

All construction is contingent on weather. Construction may be temporarily impacted by seasonal flows from upstream that pass through Town Lake. Schedules will be adjusted in order to be flexible with whatever Mother Nature has in store.

### 6) Testing

A detailed Construction Quality Assurance Plan (CQA Plan) and the contractor's quality control program for the dam have been developed to assure the dam is constructed in accordance with the plans, specifications and contract documents.

### 7) Existing rubber dam

After the new dam is complete, Tempe will render the rubber bladders inoperable, per the city's agreement with Bridgestone.

## LAKE ACCESS DURING CONSTRUCTION

Through summer 2014, the path on the south bank of Tempe Town Lake in front of Tempe Center for the Arts will be impacted by the relocation of a stormwater line. The path may also be impacted due to construction traffic on occasion through January 2015. While there may be detours along this portion of the path, people will likely still be able to access to the Town Lake Pedestrian Bridge, the Tempe Center for the Arts and the parks surrounding Tempe Town Lake.

## NOISE AND DUST

There may be construction noise from this project. The City of Tempe and PCL Construction will do their best to keep noise to a minimum, as much as safety and machinery will allow. PCL Construction will follow Maricopa County Air Quality guidelines for dust mitigation.