



## Utility Advisory Committee

### Water Conservation Strategy to Reduce Water Loss

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#### **Title**

Water Conservation Strategy to Reduce Water Loss

#### **Recommended Action**

Move to accept one or more of the proposed water conservation projects, which will reduce the City's water loss.

#### **Report**

##### **Issue:**

The City's water loss in 2014 was 200 million gallons (approximately 8 percent of what is produced). This staff report identifies four potential water conservation projects that could be pursued to help reduce this amount.

#### **Staff Contact:**

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#### **Presenter:**

Meliss Maxfield

#### **Background and Analysis:**

On October 1, 2015, the UAC discussed earmarking 20 percent of the excess water revenue from 2015's drought-related, high water sales for water conservation work if a tangible strategy was identified. If a good strategy did not arise, the funds would default to the capital program.

Water Conservation staff did an analysis of the City's residential, multi-family and commercial rebate programs. The analysis showed:

- There would be minimal water savings associated with enhancing the residential washing machine replacement program.
- Multi-family customers could have significant savings of approximately 17,500 gpd with the purchase of 700 toilets; however, past participation in the free toilet program was low.
- Commercial customers showed a steady decline in program participation, and there doesn't

appear to be a need for significant investment in this customer class.

- Concerns about gifting of public funds.

Overall, past customer participation has greatly impacted water savings, and the City anticipates further reductions in both indoor and outdoor use. However, staff feel potential reductions of the City's water loss, which was 200 million gallons in 2014, will yield significantly greater water savings than the water conservation activities described above.

Engineering, Operations and Water Conservation staff met to discuss what would help enhance the Water Conservation Program efforts in reducing water loss. A total of 13 activities were identified. Nine of the 13 activities were actions staff could pursue in-house, some of which had already been identified for planning and implementation. These activities would result in improved data collection, enhanced regulatory compliance (e.g., pressure reducing valves installed in areas with greater than 80 psi), and more accurate reporting of water use by others. The following four projects would be new efforts to pursue:

1. Fire hydrant meter locks - Install on selected hydrants that are fenced in, concealed, or difficult to access. Outcomes include reducing cross connections and the theft of water. Approximate cost to retrofit 200 hydrants is \$60,000.
2. Remote pressure sensors - Install five to six sensors in each of the seven pressure zones to monitor fluctuations in system pressure. Outcomes include more accurate estimated of water loss, system optimization and enhanced demand modeling. Approximate cost is \$92,000.
3. McCormick Valve House Leak - This leak is suspected to be caused by failing liners in the Fir Street Tanks. An estimated of 3.9 million gallons are lost annually. Perform work in conjunction with seismic retrofit project identified in 2017-2018 CIP. Approximate cost is unknown.
4. Evaluation of asbestos concrete pipe and small diameter mains - Use Echologics Pulse acoustic technology to provide structural condition assessments and simultaneously detect leaks. Outcomes include reducing water loss and the risk of ruptures. Approximate cost to evaluate up to two miles of pipe is \$80,000.

**Neighborhood/Community Interests (if known):**

None.

**Options:**

1. Approve one or more of the proposed four projects.
2. Do not approve any of the proposed four projects and have funds default to the capital program.

**Financial Impact:**

Funding source is the excess revenue generated in 2015 due to drought-related, high water sales.

**Attachment:**

*Water Conservation Program Analysis*