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Bay Area needs 'drought-proof' water supply

Water districts try to reduce, ration and recycle

San Francisco Business Times - by Sarah Thailing

As California faces a significant water crisis, Bay Area cities are realizing that their ability to grow is directly tied to their water supply.

When the state's new water year began Oct. 1, city leaders and water agencies alike were hoping for an end to the drought, while preparing for the worst. Building recycled water plants and requiring developers to pay fees to retrofit aging water systems are just some of the water management strategies that cities are using to keep afloat.

"Water and energy are the keys to economic vitality in the state of California," said John Coleman, board member of the East Bay Municipal Utility District, which keeps water flowing to 1.3 million customers in Alameda and Contra Costa counties. "Without an adequate supply in times of shortages, we are putting our state and local budgets into jeopardy."

While most Bay Area water districts are still asking for voluntary cutbacks, EBMUD instituted mandatory rationing after the Mokelumne watershed it relies on got very little rainfall. On Aug. 1, EBMUD raised rates 10 percent and began levying surcharges for customers exceeding their monthly allocations. Businesses must cut use by 6 percent or pay surcharges, while factories must save 3 percent and single-family homes 10 percent.

If the current drought reaches the parched levels of 1976 and 1977, the EBMUD service area could suffer a $1.6 billion economic loss in manufacturing and landscaping jobs, Coleman predicted. For that reason, he believes water agencies and local jurisdictions need to work together.

"We shouldn't impede development, but we need to protect our existing customers," Coleman said.

For developers, less water means more fees. Shapell Homes of Milpitas, for one, agreed to unprecedented water-saving measures to gain approval in 2007 for 927 new homes in an unincorporated area in Contra Costa County close to Alamo and within the EBMUD service area. The development has 125 homes, with 40 more under way.

Shapell reduced water use with drought-tolerant landscaping and high-tech irrigation while paying fees to retrofit existing water systems. Shapell will pay $8,437 per home to fund off-site conservation programs.

In Redwood City, a new ordinance took effect Aug. 1 requiring greater use of recycled water — highly treated wastewater that has been purified to meet state and federal health standards for uses other than drinking.

The city now requires the use of recycled water in for urinals, internal cooling towers and external landscaping on new apartments, townhouses and condominiums, and on industrial and governmental projects. It also requires the use of recycled water for external landscaping on existing and remodeled commercial and industrial buildings.

The mandate is part of creating a "drought-proof water supply," according to Justin Ezell, public works superintendent for the City of Redwood City.

Like many Bay Area municipalities, Redwood City has an aggressive water conservation program. It gets its drinking water entirely from the Hetch Hetchy regional water system, which is managed by the San Francisco Public Utilities Commission. But because Redwood City is consuming more than its assured contractual supply, more recycling is a must.

"If developers aren't conserving now, if they aren't building properties and homes that are efficient and responsible, the demand for water will just continue to grow," Ezell said.

After investing $72 million in a recycled water system, Redwood City started delivering recycled water in May 2007. The largest water recycling program on the Peninsula, the project currently saves approximately 100 million gallons of drinking water per year, with a goal of saving 300 million gallons by the year 2010.

In Daly City, golf courses are helping drive demand for recycled water to the fore. In 2004, Daly City completed a $7.5 million upgrade to its subsidiary, the North San Mateo County Sanitation District, to provide recycled water. The facility now waters the greens at the Olympic Club and San Francisco Golf Club – both in San Francisco – and the Lake Merced Golf Club in Daly City, as well as irrigating medians and other landscaped areas in Daly City.

Today the plant uses just over half of its production capacity of 2.77 million gallons of recycled water per day. To tap the excess capacity,

Daly City and the SFPUC are proposing to extend the supply pipeline and irrigate the Harding Park and Fleming Golf Courses in San Francisco with recycled water. The plan would free up more drinking water, provide a drought-proof water source and discharge less wastewater into the Pacific Ocean.

“We are working with San Francisco to see if we can maximize even more production of tertiary (treated recycled) water,” said Patrick Sweetland, director of the department of water and wastewater resources for the City of Daly City.

Beyond water conservation and recycling, water agencies and the cities they serve need to look at a variety of ways to reduce water use, said Heather Cooley, senior associate for the Pacific Institute in Oakland. Other strategies may include enacting ordinances to limit the size of front lawns in new developments, redoubling efforts to reduce water system leaks and using better storm water management.

“Water conservation and efficiency allow the Bay Area to meet the needs of a growing community and economy while saving money for customers,” Cooley said. “Businesses understand that upfront costs are necessary to reduce their water and energy bills over time.”

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