

Sweeping Operation Uses Recycled Water

In a state well known for water shortages, Inglewood, CA, is using recycled water in its street sweeping operations.

By Ranger Kidwell-Ross

California is almost as well known for its water shortages as for its movie stars. Inglewood has become an environmental leader in the state by actively seeking new ways to utilize a readily available alternative water resource, recycled water. With 185 miles of roadway to keep swept and the demand on scarce potable water becoming a daily concern, Inglewood has developed a method to serve its community on both counts.

Since late 2003, Inglewood has benefited from a creative method of allowing the street sweeping dust suppression tanks to fill from either a recycled water fill station or standard, domestic water, fire hydrants. Inglewood was already using recycled water (wastewater treated and disinfected to California Department of Health Services standards) for irrigating several city facilities, including schools, several parks, and the city cemetery.

This,

in turn, led Inglewood managers to add an innovative component to the city's street sweeping program. Since April 2003, the city has been filling up its street sweeping, sewer jetting, and water trucks with recycled water as well as potable water. Recycled water is provided by West Basin Municipal Water District from its wastewater treatment plant located at El Segundo, CA. West Basin currently operates 7.3 miles of recycled water mains in Inglewood.

The idea for using recycled water for sweeper dust suppression systems first surfaced from the city's Waterworks Division, since one of the recycled water mains was located near the city yard. Using recycled water in the city's sweepers and sewer cleaners seemed like a natural extension of the city's water reuse program.

Initially, a filling station utilizing one recycled water hydrant was set up at the public works facility to make it easy to fill the city's five sweepers, one sewer jetting truck, and one water truck.

Ray Yeghyayan, Cross-Connection Control Specialist with Inglewood, is responsible for making sure there are no interconnections between the city's potable and recycled water systems. Inglewood is the first city in California to be allowed to alternate between potable and recycled water in the same vehicle.

Working with the West Basin Municipal



Recycled water hydrant is painted purple and outfitted with different connectors than on a standard hydrant.

Water District, which produces and distributes recycled water to Inglewood, Yeghyayan developed a dual-fill pipe system where each of the pipes is color coded and sized differently.

"Part of my job in this," said Yeghyayan, "was to ensure no cross connections between our potable water sources and the recycled water when the sweeper filled up at either source. So there would be no mistake, the recycled water hydrant has been painted purple and outfitted with a different connector type than on a standard hydrant.

Nine More on the Way

"We currently have one recycled water hydrant and we intend to install nine more at different locations throughout the city. We will locate the new hydrants as strategically as we can, given the location of the recycled water mains. Our recycled water hydrant has a 2-in. fitting, instead of the standard 2.5-



Since April 2003 Inglewood has filled up its street sweepers, sewer jetting, and water trucks with both recycled and potable water.

in. fitting normally found on fire hydrants. The system that was devised also involved an air gap, to keep the two systems completely separate, and we also install different connectors on the two pipes. That makes it impossible to cross-connect the two.

“Now, when the sweepers and flushers are at the Service Center, they use the special recycled water hydrant to fill up with recycled water. When they’re out on the routes, because of travel considerations they use the normal connector to fill back up from a regular hydrant. This is a highly visible program that shows we’re making an extra effort to lead the way in reducing the consumption of potable water.”

Inglewood citizens are apparently supportive of their sweepers’ use of recycled water, since Yeghyayan said he was not aware of any complaints involving the use of recycled water in the sweeping or sewer cleaning programs.

West Basin Municipal Water District, which supplies the recycled water, is headquartered in Carson, CA. The organization, which was established in 1947 and is governed by five publicly-elected directors, provides supplementary potable water to the geographical area surrounding it. In 1995, the agency first opened its recycled water plant and today serves recycled water to 200 irrigation and industrial customers along 65 miles of pipe.

“The savings in water at Inglewood is

not yet a large amount,” said Joe Walters, the West Basin Recycled Water Project Manager for this project. “The program recycled only about 250,000 gallons of water a year, or about as much as an average single household would consume in the same time period. Still, it is no less significant due to the pioneering manner in which the recycled water is being used. This program is a very visible way for city managers to demonstrate to the public that every amount of water conservation is important and that we can each find our own ways of contributing.

“The key to the program’s implemen-

tation was gaining the Department of Health Services’ (DHS) approval to have dual-source filling. DHS takes a tough stance on assuring the public safety when it comes to recycled water, and rightly so. But DHS is always willing to work with us and consider new ways to safely expand the use of recycled water.

“Inglewood is among the first to adopt a mandatory use resolution for recycled water. This means whenever recycled water is available and can be used for non-potable uses, it must be substituted for domestic water. Domestic water is no longer the default option without a justifiable reason why recycled water should be excluded.”

In August 2004, West Basin awarded Inglewood a Visionary Stewardship Award for its innovative successes in finding ways, such as with the sweeper water-recycling program, to minimize potable water usage. From both a financial and conservation standpoint, the city’s managers are leading the way for others in the area to do all that can be done to preserve this precious public resource.

For further information, contact Ray Yeghyayan at ryeghyayan@cityofinglewood.org or Joe Walters at joew@wcb-water.org. GE

Mr. Kidwell-Ross, founder and editor of the now discontinued American SweeperSM magazine, is the editor of WorldSweeper.comSM (www.worldsweeper.com).



Sweepers and sewer flushers use the special recycled water hydrant to fill up with recycled water at the service center.