

**SPECIAL MEETING OF THE GROUNDWATER QUALITY COMMITTEE  
OF THE BOARD OF DIRECTORS  
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA  
4040 PARAMOUNT BOULEVARD, LAKEWOOD, CA 90712  
9:00 A.M., FRIDAY, JULY 29, 2011**

**AGENDA**

EACH ITEM ON THE AGENDA, NO MATTER HOW DESCRIBED, SHALL BE DEEMED TO INCLUDE ANY APPROPRIATE MOTION, WHETHER TO ADOPT A MINUTE MOTION, RESOLUTION, PAYMENT OF ANY BILL, APPROVAL OF ANY MATTER OR ACTION, OR ANY OTHER ACTION. ITEMS LISTED AS "FOR INFORMATION" MAY ALSO BE THE SUBJECT OF ANY "ACTION" TAKEN BY THE BOARD OR A COMMITTEE AT THE SAME MEETING.

- 1. DETERMINATION OF A QUORUM**
- 2. PUBLIC COMMENT**
- 3. GROUNDWATER QUALITY UPDATE – SURVEY OF MUNICIPAL WASTEWATER RECYCLED IN CALIFORNIA**  
*Staff Recommendation:* For information.
- 4. GROUNDWATER CONTAMINATION UPDATE**  
*Staff Recommendation:* For information.
- 5. DESIGN AND CONSTRUCTION SERVICES FOR THE SAFE DRINKING WATER PROGRAM**  
*Staff Recommendation:* For discussion.
- 6. DIRECTORS' REPORTS, INQUIRIES, AND FOLLOW UP OF DIRECTIONS TO STAFF**
- 7. ADJOURNMENT**

Posted by Abigail C. Andom, Deputy Secretary, July 25, 2011.

In compliance with the Americans with Disabilities Act (ADA), if special assistance is needed to participate in the Board meeting, please contact Deputy Secretary Abigail Andom at (562) 921-5521 for assistance to enable the District to make reasonable accommodations.

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Agendas and minutes are available at the District's website, [www.wrd.org](http://www.wrd.org).



## MEMORANDUM

### ITEM NO. 3

*Prepared by: Cathy Chang*

*Reviewed by: Theresa Wu*

*Approved by: Robb Whitaker*

**DATE: JULY 29, 2011**

**TO: GROUNDWATER QUALITY COMMITTEE**

**FROM: ROBB WHITAKER, GENERAL MANAGER**

**SUBJECT: GROUNDWATER QUALITY UPDATE – SURVEY OF MUNICIPAL WASTEWATER RECYCLED IN CALIFORNIA**

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### SUMMARY

This memo summarizes the results of the State Water Resources Control Board (State Water Board)'s survey of recycled water delivered in 2009. The survey results became publicly available in April 2011. The primary goals of the survey were to capture: (1) the amount of wastewater treated, (2) the amount of recycled water used, and (3) the type of beneficial use. The survey results provide a useful indicator of the statewide progress in achieving the goals of recycled water use set forth in the State Water Board Strategic Plan Update (1,250,000 acre-feet by 2015) and the Recycled Water Policy (1,525,000 acre-feet by 2020). Only publicly-owned wastewater and water recycling agencies were included in the survey.

The 2009 survey estimated a total of 723,845 acre-feet of recycled water being used in California. This estimate represents an increase of about 38% compared to the baseline survey (525,465 acre-feet) conducted by the State Water Board in 2001 and of about 10% compared to a 2007 survey (655,621 acre-feet) by the WateReuse Foundation, which included California recycled water use as part of a nationwide survey. As a point of reference, the 2001 estimate of 525,465 acre-feet is about 23 percent of the municipal wastewater available for recycling. Despite the measurable progress in the use of municipal recycled water over the years, there is still much room for improvement since the 2009 statistics reflect only 58% and 47% of the goals specified in the State Water Board Strategic Plan Update and Recycled Water Policy, respectively.

In California, municipal wastewater is recycled and utilized for various beneficial reuses. According to the 2009 survey results, the top three uses for municipal recycled water were agriculture (26%), groundwater recharge (19%), and landscape/golf course irrigation (16%). Other uses for municipal recycled water in California were commercial/industrial application, recreational impoundment, natural systems restoration, wetlands, wildlife habitat, geothermal/energy production, indirect potable reuse, and surface water augmentation.

Staff will periodically update this committee when State Water Board Staff updates the survey results with corrections received from the water agencies.

**FISCAL IMPACT**

None at this time.

**STAFF RECOMMENDATION**

For information.



## MEMORANDUM

### ITEM NO. 4

*Prepared by:* Phuong Ly

*Reviewed by:* Mat Kelliher

*Approved by:* Robb Whitaker

**DATE:** JULY 29, 2011  
**TO:** GROUNDWATER QUALITY COMMITTEE  
**FROM:** ROBB WHITAKER, GENERAL MANAGER  
**SUBJECT:** GROUNDWATER CONTAMINATION UPDATE

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### BACKGROUND

With the cooperation and support of stakeholders such as the United States Environmental Protection Agency (USEPA), California Regional Water Quality Control Board, Los Angeles Region (RWQCB), and California Department of Toxic Substances Control (DTSC), WRD developed a list of high-priority contaminated groundwater sites within District boundaries. This list is a living document, subject to cleanup and "closure" of sites as well as discovery of new sites warranting further attention. Currently, the list includes 46 sites across the Central and West Coast Basins.

WRD has been working with the lead regulatory agencies for each of these sites to keep abreast of their status, review and provide recommendations as needed, facilitate progress in site characterization and cleanup, and provide technical and financial assistance when necessary. Below is a discussion of two sites that were recently updated with information obtained from the indicated lead regulatory agency.

### FORMER MASTER SUN CLEANERS, CITY OF GARDENA (WEST COAST BASIN)

Master Sun Cleaners was a dry cleaning business that operated from the mid-1960s until 2004. Master Sun Cleaners occupied one suite of a multi-tenant retail building; this building was one of several multi-tenant retail buildings located on the property. The building occupied by the dry cleaners was destroyed in a fire in 2004; this portion of the property remains vacant, however the other buildings on the property are occupied and are in operation.

Activities associated with the dry cleaning business have impacted groundwater beneath the site. Currently the extent of contamination is being investigated and is under the oversight of the RWQCB. The constituents of concern in groundwater are volatile organic compounds (VOCs), mainly chlorinated solvents. As of March 2010, no chemicals of concern have been detected in the nearest active production (drinking water) wells. Remediation has been ongoing at the site since 2004 and remains in progress. Remediation activities have consisted of the following:

- An Enhanced In-Situ Biodegradation Barrier (EISBB) was constructed downgradient of the site to promote biodegradation of the groundwater VOC plume, which is migrating off site to the south. The Barrier was constructed by injecting an organic carbon substrate (primarily

soybean oil to depths between 22 and 42 feet below ground surface (ft bgs) in two parallel rows of 13 injection points. So far, injection events have occurred in January 2004, 2006, and 2009. A fourth substrate injection event is scheduled for the first half of 2011 to address the residual VOCs in groundwater beneath the site and in other downgradient areas. These activities and the subsequent monitoring results are to be summarized in a report that is due to RWQCB by July 15, 2011.

- An on-site soil vapor extraction (SVE) system has been operating since August 2006. As of December 2010, the cumulative total of vapor-phase tetrachloroethene (PCE) removed is approximately 2,800 lbs.
- Groundwater pump and treat has been conducted at the site since August 2006. As of December 2010, the cumulative total of liquid-phase PCE removed is approximately 260 lbs.
- In September 2008, EHC®, a formulation of controlled-release organic carbon substrate and zero valent iron, was introduced into the residual VOC plume in groundwater to promote biodegradation of chlorinated compounds. EHC® socks were placed in wells located upgradient to crossgradient of the source area. The groundwater that is treated by the in-well EHC® socks will be extracted by the existing groundwater pump and treat system. So far, groundwater monitoring data remains inconclusive as to the effectiveness of the EHC® socks. However, several of the downgradient groundwater monitoring wells show an increase in PCE daughter products.

### **POWERINE OIL COMPANY (FORMER CENCO REFINERY), CITY OF SANTA FE SPRINGS (CENTRAL BASIN, MONTEBELLO FOREBAY)**

The 88-acre site operated as an oil refinery (Powerine Oil Company) from 1936 until July 1995. The refinery produced fuel products (kerosene, leaded gasoline, aviation fuel, unleaded gasoline, jet fuel, high and low sulfur diesel, fuel oil, and petroleum coke) and non-fuel byproducts (sulfur and carbon dioxide). Prior to the 1930s, the site was an oil field consisting of oil production wells and unlined sumps/ponds, while the western portion of the site was used for agricultural purposes (between 1928 and 1938).

The refinery included six operational areas:

1. Main Refinery, East Tank Farm, & West Tank Farm – All located on a 55-acre parcel.
2. Bloomfield Property – Located directly east of main refinery parcel and included a coke handling area and a tank farm area. It is now is redeveloped with light industrial/commercial facilities.
3. Lakeland Property – Located directly south of main refinery parcel and was used for the storage of fuel products. It is now redeveloped with light industrial/commercial facilities.
4. Walker Property – Located directly southeast of the main refinery parcel and was leased for the storage and transfer of asphalt, jet fuel, gas oil, fuel oil, butane, carbon dioxide, and liquefied petroleum gas. It is now redeveloped with light industrial/commercial facilities.

In August 1998, CENCO Refining Company acquired the oil refinery and used the site only to store petroleum products in aboveground tanks. CENCO began decommissioning the site in Fall 2002. The refinery has not been in operation since at least 1998; however, some of the refinery structures remain onsite. These structures are scheduled to be removed prior to the redevelopment of the property for commercial/light industrial use.

Due to historical site activities, soil and groundwater beneath the site is contaminated with VOCs, fuel oxygenates, and petroleum hydrocarbons. VOCs have been reported in groundwater to depths of 200 ft bgs in the site vicinity. The Powerline Oil Company site is located within the limits of the Omega Chemical Superfund Site's off-site VOC plume. The nearest downgradient drinking water wells are contaminated with VOCs, mainly PCE and trichloroethene (TCE). As of February 2011, PCE and TCE concentrations in the wells were as high as 16 ug/L. A wellhead treatment system removes VOCs from all these wells.

Remediation and monitoring activities are being conducted under the oversight of the RWQCB. Currently, light non-aqueous phase liquid (LNAPL) is being actively removed throughout the site. In March 2011, RWQCB approved a workplan to conduct pilot studies (bioventing, air sparging, and in-well air stripping) for three different depths beneath the site: 1) shallow soils [0 to 10 ft bgs], 2) deep soils [10 to 100 ft bgs], and 3) the saturated zone. RWQCB expects to receive a final report on the pilot study results in October 2011.

#### **FISCAL IMPACT**

None at this time.

#### **STAFF RECOMMENDATION**

For information.



## MEMORANDUM

ITEM NO. 5

*Prepared by:* Charlene King  
*Reviewed by:* Robb Whitaker  
*Approved by:* Robb Whitaker

**DATE:** JULY 29, 2011

**TO:** GROUNDWATER QUALITY COMMITTEE

**FROM:** ROBB WHITAKER, GENERAL MANAGER

**SUBJECT:** DESIGN AND CONSTRUCTION SERVICES FOR THE SAFE DRINKING WATER PROGRAM

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### SUMMARY

The District administers the Safe Drinking Water Program (SDWP) to assist basin pumpers in sustaining active production from contaminated wells. The program provides wellhead treatment facilities to remove contaminants and improve water quality. Wells are evaluated for assistance based on factors such as water quality data and production history.

There are currently sixteen (16) Safe Drinking Water Program project facilities in operation. The cities of Commerce, Huntington Park, and Paramount each have two facilities online. There are three facilities located in Norwalk. The other facilities are located in the cities of Bell, Bell Gardens, Lakewood, Maywood, Los Angeles, Signal Hill, and South Gate. One facility, located in Pico Rivera, completed the use of treatment and the air strippers have been transferred.

The District offers both a Grant Program for wells with contamination from man-made sources such as volatile organic compounds, and a Loan Program for wells with contamination from natural sources such as iron, manganese and arsenic. As a grant, the District is the lead agency for design and construction of the facility and retains ownership. As a loan, the pumper is the lead agency securing the design and construction of the facility and ultimately ownership of the treatment system at the end of the loan payments.

When assistance is deemed necessary, WRD and the groundwater producer jointly develop a treatment solution for the subject well based on well data, type of contaminants, affected duration of their wells, and site constraints.

The committee chairman has requested that the committee discuss design and construction services process for the Safe Drinking Water Program. Staff will provide a verbal update on the District's Safe Drinking Water Program at the Committee meeting.

### FISCAL IMPACT

None at this time.

### STAFF RECOMMENDATION

For discussion.