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August 19, 2016

Mr. Michael Simmons
Foreperson
2015-2016 Contra Costa County Civil Grand Jury
725 Court Street
P.O. Box 431
Martinez, CA 94553-0091

**Subject: Contra Costa Water District Response to Grand Jury Report No. 1606,
"Reclaiming our Water – More Complicated than it Might Appear"**

Dear Mr. Simmons:

Enclosed please find the responses of the Contra Costa Water District (CCWD) to the findings and recommendations of the Contra Costa County Grand Jury Report No. 1606 entitled "Reclaiming our Water – More Complicated than it Might Appear." The response was reviewed by CCWD's Board of Directors at their regularly scheduled meeting on August 17. At the request of CCWD's Board of Directors, I am responding on behalf of CCWD.

Please call me if you have any questions or need additional information regarding the attached response.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerry Brown", is written over a printed name and title.

Jerry Brown
General Manager

JB/rlr

Attachment

cc: Contra Costa Water District Board of Directors
Roger Bailey, Central Contra Costa Sanitary District
Ryan Hernandez, Contra Costa County
Daniel McIntyre, Dublin San Ramon Services District
Alexander Coate, East Bay Municipal Utilities District
Valerie Barone, City of Concord
Joseph Gorton, City of San Ramon
Ken Nordhoff, City of Walnut Creek

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“RECLAIMING OUR WATER – MORE COMPLICATED THAN IT MIGHT APPEAR”
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FINDINGS

F3. State matching grants and low-interest loans are available for small indirect potable reuse projects, which could potentially increase water supply.

The Contra Costa Water District (CCWD) agrees with this finding. Grants and low interest loans are available for all types of recycled water projects, including indirect potable reuse. Also grants and loans can help offset project costs that would otherwise make these projects not locally cost effective. CCWD has helped acquire over \$5 million in grants for the region over the past 10 years that have contributed to increasing recycled water availability. While not indirect potable reuse, the recycled water generated is being put to beneficial use.

F4. Indirect potable reuse projects are ideal for areas in the County where other new water sources are unavailable.

CCWD disagrees with this finding. A determination of whether a water supply is ideal for a given situation will depend on the specific conditions of the area and customer. CCWD supports consideration of all available water supplies, including indirect potable reuse, with selection based on costs, water quality, protection of public health, and environmental impacts. There are no areas within CCWD that would only be possible to serve with indirect potable reuse.

F5. It is difficult to develop large recycled water projects without the cooperation and commitment of water purveyors and customers.

CCWD agrees with this finding. The Grand Jury Report notes the challenges in developing recycled water, including cost, water quality, customer acceptance, regulatory and legal compliance, financing, and timing. Recycled water for irrigation requires additional tertiary treatment and construction of new and separate recycled water distribution systems to deliver water to customers. Recycled water for industrial purposes typically requires advanced levels of treatment to remove nutrients and dissolved solids. CCWD continues to evaluate opportunities to reuse water cost-effectively and has partnered with local wastewater agencies in pursuing State and Federal grants to improve the implementation of recycled water.

CCWD has coordinated with other agencies to promote large-scale recycled water projects within its service area. CCWD appreciates the efforts taken by the wastewater agencies to make the resource available. These efforts include agreements with Delta Diablo to provide recycled water to the Delta Energy Center and Los Medanos Energy Centers in Pittsburg and irrigation needs in the Cities of Antioch and Pittsburg, agreements with Central Contra Costa Sanitary District (CCCSD) to provide recycled water to portions of Concord and Pleasant Hill, and coordination with CCCSD and the City of Concord to provide recycled water to serve the future redevelopment

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of the Concord Naval Weapons Station. Current recycled water use in CCWD’s service area exceeds 10,000 acre-feet per year which is approximately 10% of the average of the past 5 years of total demand.

Overall, recycled water use in Contra Costa County is above the statewide average. Recycled water surveys conducted by the State Water Resources Control Board (State Water Board) and noted by the Department of Water Resources (DWR) indicate that 670,000 acre-feet of municipal wastewater is recycled each year statewide, representing an average of approximately 13 percent of the 5 million acre-feet of municipal wastewater produced each year in California. The Grand Jury report estimates that approximately 25 percent of the generated wastewater is recycled in Contra Costa County. CCWD notes that recycled water within its service area is currently provided by CCCSD, Delta Diablo, Ironhouse Sanitary District, and Mt. View Sanitary District.

Specific information on recycled water use by County can be found in the following references:

DWR California Water Plan Update 2013, Volume 3, Chapter 12, Figure 12-5

http://www.water.ca.gov/waterplan/docs/cwpu2013/Final/Vol3_Ch12_Municipal-Recycled-Water.pdf

State Water Board Water Recycling Funding Program Municipal Wastewater Recycling Survey
http://www.waterboards.ca.gov/water_issues/programs/grants_loans/water_recycling/munirec.shtml

F6. Where recycled water can be wheeled to one customer, it could “free up” an equivalent amount of fresh water that could be wheeled to another customer who might be willing to pay more, thus creating “win-win” results for recycled water projects.

CCWD disagrees with this finding as it relates to wheeling through the Delta. CCWD has tried something similar with varying success which leads us to the conclusion that wheeling through the Delta would not be viable long term solution. The institutional arrangements associated with this option are cumbersome and uncertain. Also, previous studies have indicated that water recycling in CCWD’s area does not at all times create new water for consumption on a one-to-one basis. CCWD receives its water supply from the Delta and its primary source is a contract for water service from the United States Bureau of Reclamation’s (Reclamation) Central Valley Project (CVP) Under current conditions, CCWD is able to retain some amount of the new fresh water in the Los Vaqueros reservoir, but hydrology and water quality limit the total to a small fraction of the recycled water. The rest of the new fresh water would be redirected to either outflow from the Delta to the ocean or would be allocated to other CVP contractors south of the Delta without reimbursement. In addition to the yield limitations, water supply contract provisions and water rights prevent the kind of contractual arrangements suggested by this finding when water is

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wheeled through the Delta. CCWD completed a yield study in conjunction with CCCSD in 2013 that estimated the amount of new water created or “freed up” through recycling in its service area was approximately 50% of the recycled water produced. This study was reviewed by Reclamation operations staff, who concurred with the findings. The yield study can be found at the following website (<http://www.ccwater.com/DocumentCenter/View/2359>). The reduced yield may or may not result in a particular project being cost-effective. Similar to all water transfers and supply projects, the amount of new water created and available for use must be considered in the project economics.

CCWD agrees with this finding as it relates to wheeling through interties between Bay Area water systems. However, these institutional arrangements have been studied and are highly complex as well, but the more direct the connection the more likely it is that this could be feasible. Multiple agency agreements and resolution of water rights and contract issues would be needed. There are discussions ongoing between agencies in this regard, however no agreements are imminent at this point in time. Also, additional interties between water systems are in discussion that would allow for greater control of timing and quantities.

F9. Satellite wastewater treatment plants are feasible in situations where the user is distant from existing recycled water distribution systems, needs water for irrigation, and is able to meet the costs to build and operate the plant.

CCWD agrees with this finding. All feasible water supplies should be evaluated with consideration given to costs, water quality, protection of public health, and environmental impacts. The finding may also raise social and environmental justice issues.

RECOMMENDATIONS

R2. CCCSD and CCWD should explore the feasibility of cooperatively developing an IPR [Indirect Potable Reuse] Injection Well Project.

This recommendation will not be implemented. The groundwater basins underlying CCWD and CCCSD are small and exhibit poor water quality (high total dissolved solids or TDS). They also lack conditions that are favorable for storage, such as thick layers of coarse sand and gravel. Groundwater usage in the area is predominately done by private individuals for irrigation where the higher TDS is suitable for that purpose. The groundwater basins in the area have been indicated as low priority by the State and do not exhibit signs of over-drafting or the need to be augmented with a supplemental source of recharge. Further, if groundwater storage and recovery were found to be feasible in certain areas, there are surplus surface water supplies available in wet and normal years that could be used as a recharge mechanism at significantly lower costs than indirect potable reuse (IPR).

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CCWD is active in funding research and efforts to establish guidelines and regulations for direct and indirect potable reuse, including studies being conducted by the WaterReuse and WaterResearch Foundations. Ironhouse Sanitary District and CCWD have also collaborated on future opportunities for IPR in the service area as part of Ironhouse Sanitary District’s most recent master plan. However these options are dependent on statewide regulatory action which would have to precede any local activity.

R3. CCCSD, CCWD, and DSRSD should consider the formation of a JPA to expand CCCSD’s tertiary treatment capacity in order to free up fresh water for domestic and commercial customers.

This recommendation will not be implemented. Formation of a Joint Powers Authority (JPA) is possible but is not necessary to evaluate opportunities to expand CCCSD’s tertiary treatment capacity. CCWD has participated with CCCSD and DSRSD on several water supply alternative evaluations and coordinates with all Bay Area water and wastewater agencies through various venues other than a JPA, including the Bay Area Integrated Regional Water Management (IRWM) group, the East County IRWM group, the East County Water Management Association (ECWMA), and the Bay Area Regional Reliability Study.

The best opportunity for cost-effective recycled water within CCWD’s service area is for new development and projects that leverage existing infrastructure to deliver recycled water. Examples of new development include the redevelopment of the Concord Naval Weapons Station in which approximately half of the water demand is projected to be met with recycled water. Other opportunities to leverage existing infrastructure include deliveries of recycled water to major industrial customers. Recycled water distribution facilities were constructed in the late 1970s and could be rehabilitated to serve recycled water to refineries in CCWD’s service area. Challenges may still exist in additional treatment costs to make the water suitable for industrial use and to be cost effective. CCWD is also conducting preliminary studies to evaluate the potential to utilize the Loop Canal as a conveyance mechanism to facilitate additional cost-effective deliveries of recycled water in its or adjacent service areas. CCWD and CCCSD as well as the City of Concord are having discussions regarding implementation of recycled water to the Concord Naval Weapons Station as that development occurs.

R7. The district should consider facilitating the use of satellite wastewater treatment plants, where appropriate.

This recommendation has been implemented. CCWD considers all available water supplies. The individual water supply needs of each project are considered on a case-by-case basis, with selection of an alternative based on costs, water quality, protection of public health, and environmental

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impacts. CCWD is not aware of any locations within its service area where satellite wastewater treatment is cost-effective or appropriate.

R9. The County and Districts should consider meeting to discuss each District’s need for land for demonstration of scaled-up recycling and desalination projects using green technologies, which may qualify for State grant money, and the County’s ability to lease such land.

This recommendation has been implemented and is ongoing. The County and water and wastewater agencies participate in numerous regional efforts to discuss water supply, stormwater management, flood control, habitat restoration, and other water related projects. The County is an active participant in the East County and Bay Area IRWM groups and the ECWMA. Specific project needs including land, permits, and other project support activities are discussed on a regular and as-needed basis.

CCWD continues to evaluate additional opportunities for large-scale recycled water in conjunction with wastewater agencies. Those efforts include the completion of a regional study on industrial recycled water opportunities (East County Industrial Recycled Water Facilities Plan; with PG&E, Mirant, CCWD, CCCSD, Delta Diablo, Ironhouse Sanitary District, City of Antioch, and City of Pittsburg). Through the East County IRWM, CCWD collaborated with Delta Diablo and Ironhouse Sanitary District to obtain State grant funds to construct recycled water facilities and to prepare master plan and feasibility studies for recycled water in their respective systems. CCCSD and CCWD are also currently evaluating the feasibility of serving recycled water to the refineries in Martinez.

With respect to desalination, CCWD has partnered with four other Bay Area water agencies to investigate a regional water supply project using desalination and water transfers to serve the needs of over 5.6 million residents and businesses in the region. CCWD, the East Bay Municipal Utility District, the San Francisco Public Utilities Commission, the Santa Clara Valley Water District, and Zone 7 Water Agency have collaborated in this effort since 2003. This work included a pilot desalination project that was completed at CCWD’s Mallard Slough intake in 2009. Studies completed also included a Greenhouse Gas (GHG) Analysis that estimated energy consumption and opportunities to reduce or offset GHG emissions, including the use of green energy technologies. The documents can be accessed through the project’s website (<http://regionaldesal.com>). CCWD and other Bay Area water agencies are developing the Bay Area Regional Reliability Study which includes creation of a regional drought contingency plan and further consideration of desalination.