



Memorandum

TO: TRANSPORTATION AND
ENVIRONMENT COMMITTEE

SUBJECT: SOUTH BAY WATER RECYCLING
DEVELOPMENT PLAN

FROM: John Stufflebean

DATE: 08-25-08

Approved

Christine J. Shippey

Date

8-28-08

RECOMMENDATION

Accept workplan to move towards cost recovery and double the amount of nonpotable recycled water delivered by South Bay Water Recycling to 20 million gallons per day consistent with the City's Green Vision goals. The workplan includes the following efforts:

1. Reduce the discount for recycled water to increase revenues and accelerate cost recovery according to the rate adopted by Council on June 17, 2008.
2. Connect additional customers to the existing South Bay Water Recycling pipeline and extend pipelines to new developments and potential high reuse areas.
3. Work with the City Attorney's Office and Planning, Building and Code Enforcement to develop ordinances that require new developments to install dual plumbing systems for indoor use of recycled water and require use of recycled water where available; and
4. Propose appropriate fees to fund the expansion of South Bay Water Recycling to serve new developments and potential high reuse areas within San José.

OUTCOME

Adoption of the workplan will allow staff to propose for Council approval actions which, when implemented, will double the use of nonpotable recycled water to 20 million gallons per day (mgd) and increase revenues to more nearly cover operating costs. (Streamflow augmentation and groundwater recharge are proposed to reuse another 20 mgd of recycled water increasing the total from the current 10 mgd to 40 mgd.)

BACKGROUND

South Bay Water Recycling (SBWR) began full-scale operation in 1998 and was initially developed to reduce flows from the San José/Santa Clara Water Pollution Control Plant (Plant) into the Bay. However, over the past decade the system has proved increasingly valuable as a reliable source of water suitable for a variety of industrial and irrigation uses. In September 2007, staff presented the Transportation and Environment Committee with information about a

number of activities designed to meet the City's Green Vision Goal #6: "Recycle or Beneficially Reuse 100% of Wastewater." Staff committed to return with recommendations 1) for increasing revenues from the sale of recycled water; 2) for increasing the amount of recycled water used by irrigation and industrial customers; and 3) for extending the recycled water distribution system to reach new developments.

With respect to the first goal, on June 17, 2008, Council adopted a proposal to reduce the discount for irrigation customers from \$165 per acre-foot (af) to \$105/af over three years, and to reduce the discount for industrial customers from \$365/af to \$345/af. These changes are expected to increase revenues by as much as \$200,000 per year in the current fiscal year. To increase recycled water use staff is developing ordinances that would require new developments to use recycled water for appropriate indoor applications and evaluating the use of sewer connection fees to fund SBWR extensions.

ANALYSIS

1. Reduce Discounts for Recycled Water

SBWR sells recycled water on a wholesale basis to the cities of Santa Clara and Milpitas, the San José Municipal Water System, and San José Water Company (SJWC). These retailers in turn sell recycled water to more than 550 customers in San José, Milpitas, and Santa Clara. The wholesale price of recycled water is set at a discount relative to the price the Santa Clara Valley Water District (District) charges for untreated ground water. During the past fiscal year, that rate was \$475/af, and the discount for recycled water was set at \$165/af for irrigation customers and \$365/af for industrial customers. As a result, the wholesale irrigation rate was \$310/af and industrial rate was \$110/af.

This pricing structure has proved successful in encouraging the use of recycled water in the San José area over the past ten years. However, revenues from the sale of recycled water (FY 2007-2008 \$2.25 million) fall short of SBWR operating expenses, which total around \$5 million per year. The rates adopted by Council on June 17, 2008, will reduce the irrigation discount from \$165/af to \$105/af over three years, and reduce the industrial discount from \$365/af to \$345/af. Reducing the discount is estimated to generate about \$200,000 in additional revenue the first year, increasing to about \$500,000 after three years. Combined with anticipated increases in the wholesale cost of ground water and continued subsidy from the District of \$115/af, program revenues could equal operating costs within seven years, assuming steady growth in recycled water demand. Based on discussions with retailers and customers, the adopted changes will not reduce the current or future use of recycled water.

2. Expand SBWR System

The SBWR system currently supplies customers with recycled water through 109 miles of distribution piping. Constructed at a cost of about \$225 million, the system also includes 9.5 million gallons of reservoir capacity and four pump stations serving a combined annual demand of 10,000 afy, or about as much water as 20,000 families use in a year. In order to meet the

City's Green Vision Goal the SBWR system will have to more than double the amount of nonpotable water delivered by increasing the amount of industrial use, connecting new irrigation and industrial customers in the vicinity of the existing pipeline, and extending the SBWR pipeline to reach new developments and other potential high demand areas. In order to fund extensions and facilitate connection of new developments, staff has begun developing appropriate fees and ordinances as discussed in more detail below.

Some additional demand is expected to be met by supplying recycled water to cooling towers at industrial sites adjacent to the existing pipeline. In December 2007 the City entered into an agreement with Winzler and Kelly Consultants to provide engineering services to facilitate the use of recycled water in cooling towers at public and private sites in the SBWR service area. Since the beginning of the calendar year, recycled water has been connected to the first of two industrial cooling facilities as a demonstrate project for other facilities. To further increase recycled water use, the program is developing a number of projects to extend the SBWR system to industrial facilities in Santa Clara north of Central Expressway; to schools in the Franklin-McKinley School District near Yerba Buena Road and to the Mineta-San José International Airport. Other potential projects include extensions to serve schools and parks in Santa Clara and San José and a pipeline to provide recycled water for cooling towers at a number of facilities in downtown San José. However, in order to reach the Green Vision goal of 20 mgd nonpotable reuse the program will need to extend the SBWR system further to reach new developments in the North First Street and Evergreen areas of San José, as well as other areas of high water use.

Since developers will directly benefit from the availability of this water supply, staff has been preparing appropriate ordinances and fees that will allow them to help pay for the cost of installing recycled water pipelines to their developments. As discussed in more detail below, a formal proposal of such changes will be presented to Council later this year. ESD is also participating with the Department of Public Works in a consultant study to evaluate fees and charges associated with connection to the Plant, including the establishment of fees for developers to participate in funding SBWR system extensions. The results of that study are expected to be available during the coming fiscal year.

It should be noted that the City's Green Vision goal will not be achieved by irrigation and industrial use of recycled water alone, but will also require coordination with the Santa Clara Valley Water District to provide recycled water for additional uses, including stream augmentation and groundwater recharge or other forms of potable reuse. To that end, the District is currently evaluating alternate sites for a pilot stream augmentation project, and is designing an Advanced Water Treatment Facility (ARWTF) to further purify recycled water through a combination of microfiltration, reverse osmosis, and ultraviolet disinfection. In addition, the City and District are participating in a Joint Recycled Water Advisory Committee to discuss further collaboration.

3. Adopt Ordinances to Increase Use of Recycled Water by New Developments

As discussed in the September 2007 T&E meeting, over the past ten years a number of new developments have been designed, constructed and are using recycled water from the SBWR

system. The City of Santa Clara has reached agreement with some developers to use recycled water through the development review process, and in some instances developers installed recycled water pipelines and connected to the system at their own expense. Within the City, the Department of Planning, Building and Code Enforcement (PBCE) has conditioned some projects on their use of recycled water through the California Environmental Quality Act (CEQA) review process.

The San José Municipal Code currently requires that all outdoor irrigation areas 10,000 square feet in area or greater provide for the current and future use of reclaimed water (SJMC Sec. 15.11.260). The Municipal Code further stipulates that such a facility must use recycled water when and if it becomes available (15.10.295). However, at present no developments in San José are required to install dual plumbing facilities for indoor use of recycled water for toilet flushing, cooling, etc. To ensure that recycled water is used to the greatest extent practicable, a number of communities have adopted "mandatory use ordinances" that require new developments to include dual plumbing facilities:

- The City of Palo Alto has adopted an ordinance establishing a "Recycled Water Project Area" and requiring all projects in excess of 10,000 sf within the area to install dual plumbing systems, while projects in excess of 100,000 sf must install dual plumbing systems regardless of their location.
- Redwood City has adopted an ordinance that requires that "recycled water shall be used for nonpotable uses within the designated Recycled Water Service Area wherever its use is consistent with legal requirements, preservation of public health, safety and welfare, and the environment."

A comparable ordinance for the City would establish a similar Recycled Water Project Area and require new development to install dual plumbing systems. The Municipal Code provision which now requires the use of recycled water where available only for landscape irrigation (SJMC Sec. 15.10.295) could also be amended to require that when recycled water becomes available facilities with dual plumbing would be required to use the recycled water for all appropriate applications, including toilet flushing, cooling, and outdoor irrigation.

4. Set Developer Fees to Fund SBWR Expansion

ESD is participating with the Department of Public Works in a consultant study to evaluate fees and charges associated with connection to Plant, including the establishment of fees for developers to participate in funding SBWR system extensions. The results of that study are expected to be available during the coming fiscal year. In the meantime, staff has started discussions with the development community, facilitated through the Public Works Development Industry Meeting and the Planning Development Roundtable, to ensure that proposed ordinances are fair and equitable and that they will accomplish the desired outcomes. To that end, staff is scheduling workshops to include representatives from a number of groups, including the Building Owners and Managers Association (BOMA) and the National Association of Industrial and Office Properties.

EVALUATION AND FOLLOW-UP

Ordinances governing the use of recycled water will be brought back to the T&E Committee during the current fiscal year. Projects to extend the recycled water system will be presented to the Council and Treatment Plant Advisory for approval as required. SBWR performance indicators will be measured and reported on a quarterly basis.

PUBLIC OUTREACH/INTEREST

The discount reduction was presented to the Transportation and Environment Committee on September 17, 2007, and discussed with SBWR retailers on February 28, 2008. Mandatory use of recycled water in new developments was discussed at the January Developer Roundtable and the April Builders Roundtable. Additional workshops on this topic are scheduled.

- Criteria 1: Requires Council action on the use of public funds equal to \$1 million or greater. (Required: Website Posting)**
- Criteria 2: Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. (Required: E-mail and Website Posting)**
- Criteria 3: Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. (Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

POLICY ALTERNATIVES

Alternative # 1: Do not reduce discounts to irrigation and industrial customers.

Pros: Maintaining current discounts might increase customer satisfaction with recycled water.

Cons: Reduced revenues from the sale of recycled water will result in higher subsidies from sewer ratepayers for SBWR operating deficits.

Reason for not recommending: The reduce discount will be sufficient to encourage recycled water use and will move the operation of the system toward a more "cost recovery" basis.

Alternative # 2: Do not expand the SBWR system.

Pros: Public funds not invested in SBWR pipelines could be used for other Plant capital projects.

Cons: Use of limited public funds for recycled water pipelines will leverage developer funds to ensure cost-effective growth of the SBWR system and optimum use of recycled water. Failure to invest in extensions to the SBWR system would reduce recycled water use.

Reason for not recommending: Expanding the SBWR system will augment local water supply, reduce Plant discharge and enable the City to meet its Green Vision goals.

Alternative # 3: Do not require new developments in San José to use recycled water.

Pros: New developments may save money by not installing dual plumbing systems.

Cons: New developments that fail to install dual plumbing systems will use recycled water, reducing demand and increasing the challenge of reaching the City's Green Vision goals.

Reason for not recommending: The incremental cost to new developments will be offset over the life of the facility by savings in the cost of recycled water. Adoption of an ordinance requiring the use of recycled water will help the City meet its Green Vision goals.

***Alternative # 4:** Do not set developer fees to expand the SBWR system.*

Pros: Developer funds not invested in SBWR pipelines could be directed to other civic improvements or to reduce the cost of construction in San José.

Cons: Sewer connection fees will remain a relatively small cost commensurate with the benefit received and needed to augment the limited public funds available to expand the SBWR system.

Reason for not recommending: Developer contributions to the SBWR system will enable the City to augment local water supply, reduce Plant discharge and meet Green Vision goals.

COORDINATION

This memorandum has been coordinated with the City Attorney's Office, the Department of Planning, Building and Code Enforcement and the Department of Public Works.

FISCAL/POLICY ALIGNMENT

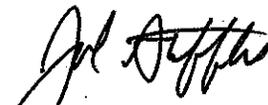
The proposed plan is consistent with the City's Green Vision policy, especially Goal #6: Recycle or Beneficially Reuse 100% of Wastewater (100 million gallons per day).

COST SUMMARY/IMPLICATIONS

Adoption of the proposed discount will increase revenues from the sale of recycled water. The cost of system extensions will be presented when contracts are presented for approval.

CEQA

Not a project. Elements of the plan that involving construction will receive environmental certification prior to design and construction as needed.



JOHN STUFFLEBEAN
Director, Environmental Services