



Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: Kerrie Romanow

SUBJECT: SEE BELOW

DATE: April 2, 2021

Approved

Date

4/6/2021

SUPPLEMENTAL

**SUBJECT: SANTA CLARA VALLEY WATER DISTRICT'S EFFORT TO DEVELOP
PURIFIED WATER PROJECTS IN SANTA CLARA COUNTY**

REASON FOR SUPPLEMENTAL

Accept general information and background on the status of Valley Water's Purified Water Program and provide additional information on how the Administration can continue discussions with Valley Water on a potential partnership.

BACKGROUND

Over the past two decades, the City of San José (City) and Valley Water collaborated to support the expansion of recycled water and to augment the local water supply in Santa Clara County. The Regional Wastewater Facility (RWF) created South Bay Water Recycling (SBWR), a regional recycled water distribution system serving the cities of San José, Santa Clara, and Milpitas, in response to regulatory requirements of the NPDES discharge permit to improve the South Bay water health.

The RWF is the largest tertiary treatment facility in the western United States. Using state-of-the-art technology and complex treatment processes, the RWF treats an average of 103 million gallons per day (MGD) with a capacity of up to 167 MGD. The RWF serves 1.4 million residents and over 17,000 businesses in eight cities and four sanitation districts by treating wastewater to very high national standards, protecting public health, the environment and supporting the economy.

Valley Water's long-term water supply strategic planning has identified expansion of recycled and purified water, at an affordable price, as an essential important component of the County's water supply. Specifically, Valley Water has a goal to meet **ten percent** of the water supply demands with recycled and purified water. Existing recycled water systems already account for approximately **five percent** of County water supply, the majority provided by the RWF.

In 2010, the City and Valley Water entered into the Recycled Water Facilities and Programs Integration Agreement to cost and revenue share the Silicon Valley Advanced Purification Center (SVAWPC), an advanced wastewater effluent treatment facility producing up to 8 MGD of purified water. The SVAWPC was integrated to the RWF treatment process when the purified water it produced is blended with RWF effluent, to augment the recycled water supply distributed by SBWR. The SBWR currently delivers approximately 13,000 acre feet per year (AFY) of water, reaching peak summer deliveries of about 35 MGD. The Integration Agreement establishes each agencies' cost share to operate the SVAWPC and revenue share from the sale of recycled water by SBWR to water retailers. Valley Water and the City also concurrently agreed to a Ground Lease to construct the SVAWPC and lease the land at \$10 per year. Pursuant to the Ground Lease, Valley Water may not demolish the facility and the SVAWPC would revert to the City if Valley Water ceased operation or abandoned it.

Valley Water intends to pursue the expansion of the water supply for Santa Clara County through the treatment of wastewater, as evaluated during the 2014 SBWR Strategic and Master Planning process. Since expansion of the water supply could be compatible with the RWF operation (e.g. SBWR), the 2013 RWF Plant Master Plan reserved 23 acres of land adjacent to the SVAWPC as a potential site for a new purified water facility or an additional recycled water facility.

In 2016 through mid-2018, Valley Water and the City discussed the feasibility of building a larger facility including Valley Water's proposed financing options such as a public private partnership to operate a facility that would treat the wastewater effluent for groundwater recharge. Valley Water and the City entered into a Master Agreement to reimburse the City in an amount up to \$200,000 to engage in these discussions. It was agreed then that if the approach changed to include treatment for potable water that at a minimum additional legal and technical review would be required. Valley Water issued a competitive procurement in mid-2018, including terms at a high level, and reserved resolution of outstanding issues to be negotiated including the disposition of reverse osmosis concentrate (a by-product of a purified water facility). The procurement did not proceed to conclusion until the current discussions resumed in 2020.

In December 2019, Valley Water and the cities of Palo Alto and Mountain View entered into an agreement that would provide Valley Water the right to reserve wastewater effluent in exchange for compensation to exercise the option, \$16 million funding to build a local water treatment plant or other water projects, and \$1 million per year compensation for the wastewater effluent upon exercise of the option for treatment at either a local or regional water treatment plant. Valley Water agreed that it would be responsible for all cost associated with building and operating a regional facility including reverse osmosis.

In January 2020, Valley Water approached San José and Santa Clara staff to express an interest in negotiating an agreement modeled after their Palo Alto and Mountain View agreement. Two subsequent meetings were held in February and March 2020, with all parties recognizing the significant time commitment and resources required to negotiate a similar agreement. On June 16, 2020, Valley Water's Board received an update on concepts to further develop purified water

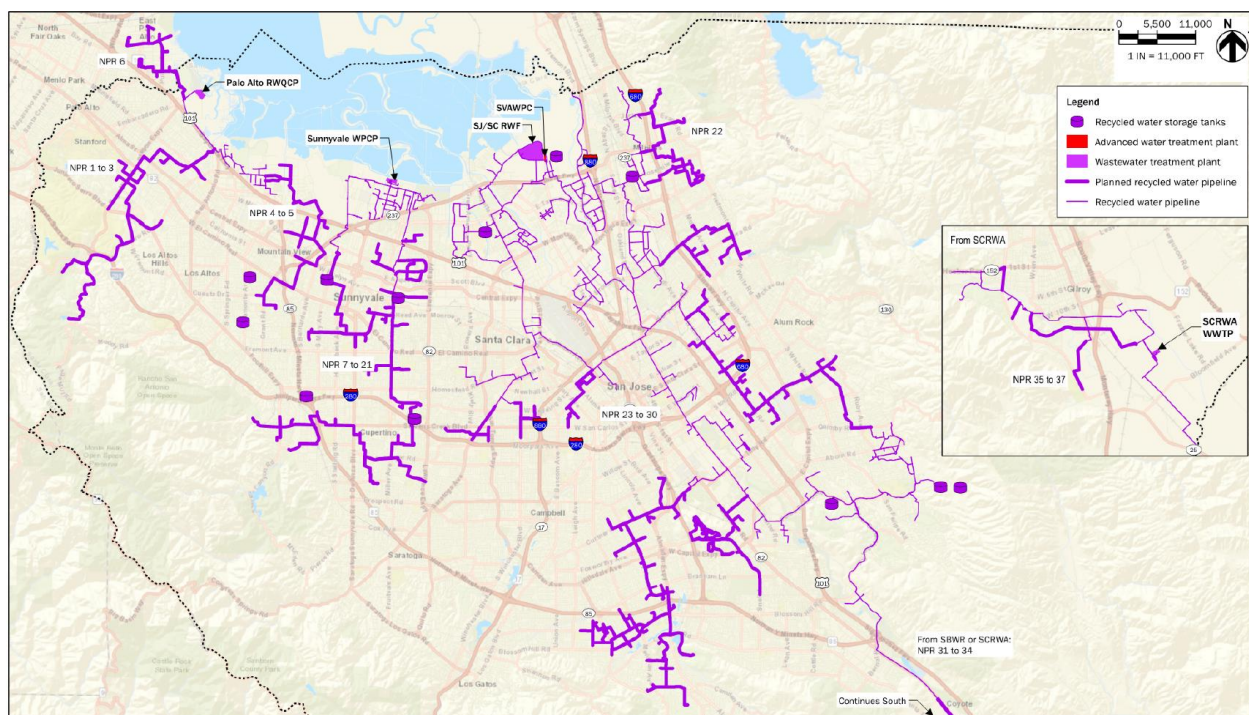
in Santa Clara County. Valley Water's Board directed staff to explore, within 90 days, a similar agreement with San Jose and Santa Clara, and the expansion of the SVAWPC to increase production of purified water for reuse. Similarly, on September 1, 2020, Council directed the City Manager to prioritize the pursuit of expanded recycled water use with Valley Water to increase a local, drought-resilient water supply and reduce reliance on imported water. On October 13, 2020, the Santa Clara City Council authorized staff to negotiate an agreement with Valley Water for terms substantially similar to the Palo Alto and Mountain View agreement in support of the expansion of recycled water and potable reuse.

Recycled Water Expansion

On September 1, 2020, Council also directed the Administration to prioritize the pursuit of expanded recycled water use with Valley Water to increase a local, drought-resilient water supply and reduce reliance on imported water. In 2014, South Bay Water Recycling (SBWR) completed the Strategic and Master Planning Report ("SBWR Report"). The SBWR Report identified the potential to increase recycled water use by an additional 10,000 acre-feet per year. The estimated capital cost to reach this long-term recycled water goal is \$243M.

In addition, Valley Water's recent Countywide Water Reuse Master Plan (CoRe Plan) evaluated the potential for expanding the use of recycled water, including the recommendation to increase countywide recycled water from 18,000 AFY in 2018, to 28,000 AFY in 2025, and 33,000 AFY in 2040 (*See map below for potential alternatives*).

FUTURE REUSE OPPORTUNITIES AND ALTERNATIVES



As directed, staff will proceed with negotiating the expansion of recycled water infrastructure in alignment with Valley Water's CoRe Plan and the SBWR report.

ANALYSIS

On September 1, 2020, staff proceeded to negotiate an agreement that would be substantially similar to the business terms agreed to between Valley Water and the cities of Palo Alto and Mountain View.

<https://sanjose.legistar.com/LegislationDetail.aspx?ID=4624806&GUID=A6AC381F-CF43-4246-B51B-D69F4EF79832&Options=&Search=>).

- Term of up to 63 years
- Option to transfer up to 9 MGD of wastewater effluent, with an optional incremental increase in wastewater effluent if available.
- Valley Water to provide \$16.0M for either a local water treatment plant or other recycled water project.
- Valley Water reserves the option to transfer or use effluent in exchange for \$200K/year up to 10 years, or until a purified water facility is operational or the option is exercised.
- Upon exercising the option, Valley Water will pay a minimum \$1.0M/year for 9 MGD of effluent, along with a proportional increase should more effluent become available. If Valley Water decided to take less than 9 MGD, Valley Water is still obligated to pay \$1.0M.

The Administration was tasked with an agreement that would be consistent with the following principles:

- To not incur additional liabilities or other adverse financial impacts on the Regional Wastewater Facility and sanitary sewer collection system;
- To not increase the discharge of nutrients and other pollutants to the Bay;
- Minimize or reduce greenhouse gas emissions;
- Support a vibrant and adaptive ecosystem in the Lower South San Francisco Bay;
- Minimize the drinking water rate impact on our residents;
- Ensure long-term viable water supplies for San José.

Purified Water Project

In developing a purified water project, a variety of options are available to determine the exact structure and path to implementation. In general, there are two broad categories of facilities:

Stand-Alone Facility – commonly referred to as a “scalping plant”. This type of facility removes wastewater directly from the sanitary system, produces purified water, and discharges a waste product back into the sanitary system via an Industrial Waste Discharge Permit.

Integrated Facility – While the extent may vary, overall, this type of facility integrates into the daily wastewater operations and NPDES permit requirements of existing wastewater treatment plants.

Valley Water seeks to implement an “Integrated” type purified water facility, in conjunction with a public private partnership, to operate a facility for the purpose of treating wastewater effluent for groundwater recharge. An integrated facility creates additional complexities that have not been fully analyzed, particularly in consideration of the potential agreement term limit (approximately 63 years).

Based on information the City has received, there are multiple issues that must be analyzed such as:

Source of Wastewater Effluent - Valley Water seeks to receive wastewater effluent water prior to RWF fulfilling NPDES discharge permit obligations. The physical point of connection, required infrastructure modifications, and operational parameters have not been identified and it is not clear what impact integration would have on RWF operations, additional cost, or potential risk to long-term permit compliance.

Reverse Osmosis Concentrate –Valley Water agreed in the Palo Alto and Mountain View Agreement that if it built a regional facility, Valley Water would be solely responsible for all cost associated with building and operating a regional facility including the treatment of the reverse osmosis concentrate. It is unclear how Valley Water intends to dispose of the waste, and how the City can ensure that any proposed disposal option would not effectively shift the cost and risks to the RWF.

Existing SVAWPC – The existing SVAWPC was co-funded by the RWF and Valley Water, and is “integrated” into the RWF treatment process, by receiving partially treated wastewater, advanced treating wastewater, and blending the product water with RWF effluent, to augment the recycled water supply distributed by SBWR. Valley Water seeks to revise the terms of agreement and intent of the existing facility. Any modification to the existing facility, or modifications to existing agreements, will require a re-evaluation of terms to address ownership, responsibility, and compensation.

Wastewater Effluent Quantity & Quality – Due to changing water use behaviors and practices, such as reduced indoor water consumption and popularity of implementing private on-site water reuse systems, wastewater quality is expected to change over time. In addition, reductions in the amount of effluent to the Lower South Bay, changing influent water quality, and higher concentrations of nutrients may result in future environmental impacts on receiving waters, and restrictions on the availability of wastewater effluent.

Private Activity Considerations – From 2016 through mid-2018, Valley Water and the City met and discussed financing options such as a public private partnership to operate a facility that would treat the wastewater effluent for groundwater recharge. It was agreed

then that if the approach changed to include treatment for potable water that, at a minimum, additional legal and technical review would be required. Once Valley Water provides a term sheet and structure for the public private partnership, additional legal and technical review must be initiated to confirm that such an approach would not compromise the RWF's ability to secure future tax exempt bond financing for the RWF Capital Improvement Program..

Source Control – It is anticipated that additional source control requirements in the sanitary collection system will be necessary to support a purified water project. In recognition of this, Valley Water held a Countywide Water Reuse Master Plan (“CoRe Plan”) Stakeholder Task Force Meeting on March 04, 2021. The presentation included a table titled “Regulatory Considerations for Public Health”. The table specified the level of source control complexity (low, medium, high) associated with each potential purified water portfolio. A purified water project within San José is identified as having a medium level of complexity for source control. Depending on whether the proposed regional facility is treating water for potable or non-potable reuse, staff anticipates that a Valley Water project for potable reuse will lead to additional regulatory burden to San José residents and businesses, and the sanitary sewer collection system.

/s/
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Director, Environmental Services

For questions, please contact Jeff Provenzano, Deputy Director, at (408) 277-3671.