



DATE: July 16, 2019

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT: Adopt a Resolution Approving Plans and Specifications and Call for Bids for the Recycled Water Customer Onsite Conversions

RECOMMENDATION

That Council adopts a resolution (Attachment II) approving the plans and specifications for the Recycled Water Customer Onsite Conversions and calling for bids to be received on August 20, 2019.

SUMMARY

The City's Recycled Water Project consists of constructing a treatment facility, storage tank and pump station at the City's Water Pollution Control Facility (WPCF) and installing nine miles of distribution pipelines and customer connections to deliver recycled water to customers for irrigation and industrial uses. The project is being constructed under multiple contracts. Design has been completed and bid documents have been prepared for the construction of irrigation system retrofits necessary to convert customer sites from the City's potable drinking water system to the new recycled water system. Staff is requesting Council's approval of plans and specifications and calling for bids to be received on August 20, 2019.

BACKGROUND

The City is implementing the Recycled Water Project, which will provide a locally sustainable and drought-proof supply of recycled water to customers for irrigation and industrial uses. The Recycled Water Project consists of constructing a treatment facility, storage tank and pump station at the City's Water Pollution Control Facility (WPCF) and installing nine miles of distribution pipelines and customer connections to deliver recycled water to customers for irrigation and industrial uses. The City-owned recycled water treatment facility was added to the project in December 2017, after the City was unable to make progress with Russell City Energy Corporation, LLC (RCEC) in finalizing an agreement for the City to obtain recycled water from RCEC's Recycled Water Facility, located adjacent to the WPCF.

The initial phase of the project is anticipated to deliver an estimated 290 acre-feet per year, or about 260,000 gallons per day (gpd), of disinfected tertiary treated recycled water for thirty-one customer sites within a three-mile radius of the WPCF. The Phase I customer sites include four parks, six schools, twenty private businesses, and City street landscaping. Once the initial infrastructure is constructed, staff will prepare a Recycled Water Master Plan to evaluate

potential expansion of the system and identify customers that could be included in future phases.

Construction of the City's Recycled Water Project is well underway and recycled water deliveries are anticipated to begin in spring 2020. The Recycled Water Project is being constructed under multiple contracts as described below:

1. **Whitesell Street Pipeline.** Approximately one mile of pipeline was installed in 2015 as part of the 880/92 Route Reliever Project that realigned Whitesell Street.
2. **Distribution System Pipelines.** Construction of nearly eight miles of pipelines was completed in June 2019, nearly one year ahead of schedule and under budget.
3. **Storage Tank and Pump Station.** A one-million-gallon storage tank and pump station is under construction at the WPCF and is scheduled to be completed in July 2019.
4. **Treatment Facility – Phase 1.** A 500,000 gpd package membrane treatment system is being installed at the WPCF and is scheduled to be completed by December 2019. Funding for the treatment facility is included as a separate project (Project No. 07710) in the FY 2020 Capital Improvement Program.

The fifth and final contract for the Recycled Water Project involves construction of irrigation system retrofits necessary to convert customer sites from the City's potable drinking water system to the new recycled water system. On March 20, 2017, the City entered into an agreement with HydroScience Engineers, Inc., to provide engineering, design, and construction support services for customer on-site retrofit conversions.

DISCUSSION

The bid documents for the Recycled Water Customer Onsite Conversions include modifying the piping on a customer's property for the site to be able to use recycled water for irrigation. As part of this contract, any buried backflow prevention devices on existing fire lines will be upgraded and brought above ground so they can be routinely tested by Utilities staff to ensure complete separation of the recycled water and potable water systems at all times. Signage will also be placed around the site to inform the public that recycled water is being used for irrigation to conserve limited drinking water supplies.

Once the onsite piping modifications are constructed, there are a significant number of supporting tasks that must be completed prior to connecting the customer site to the recycled water system. The contractor will need to work closely with staff, the City's consultant, and customers to perform cross-connection and coverage testing to ensure that the site complies with all State regulations for use of recycled water. The customer site supervisor must also successfully complete training on the use of recycled water and City staff must conduct a final inspection of the site before issuing a permit to allow the customer to begin receiving recycled water.

Phase I of the Recycled Water Project includes conversion of thirty-one customer sites to

recycled water for irrigation. The customer sites include:

- Four parks - Oliver Sports Park, Mt. Eden Park, Christian Penke Park, and Rancho Arroyo Park)
- Six schools - Impact Academy, Mt. Eden High School, Eden Garden School, Lorin Eden Elementary School, Leadership Public School, and Anthony Ochoa Middle School
- Life Chiropractic College
- Nineteen private businesses
- City landscaping along Whitesell Street

To date, customers representing twenty-eight (out of thirty) non-City sites have signed an agreement with the City, allowing the City or its contractor access to the customer's site to perform the piping modification work at no cost to the customer, in exchange for the customer agreeing to use recycled water in the future and be solely responsible for maintenance of the onsite irrigation system, once the conversion to recycled water is complete. Staff is in discussions with the remaining two customers and currently anticipates that they will sign up for the program. If the City is unable to reach agreement with these final two customers prior to the start of construction, these customers would be removed from the contract.

The schedule for completing the onsite piping work and connecting customers to the recycled water system is dependent on when a supply of recycled water is available. Prior to anticipated completion of the recycled water treatment facility in December 2019, the contractor and City can perform limited site work, such as installing signs and training customers on the proper use of recycled water. Staff anticipates that the majority of the construction work at customer sites will begin in January 2020 and take 3 to 6 months to connect all of the City's Phase I customers to the recycled water system. Staff further anticipates that certain customers may begin receiving water by spring 2020, while some customers may take longer to connect if multiple site visits and tests are required to ensure compliance with regulatory requirements.

Staff will maintain regular communication with customers throughout this phase of the Recycled Water Project so that questions and concerns are addressed in a timely way and site supervisors are properly trained on the use of recycled water. Staff will also work closely with the customer, contractor, and consultant to minimize disruptions to the customer during onsite construction activities.

ECONOMIC IMPACT

Construction of the Recycled Water Onsite Conversions would be subject to the requirements of the Community Workforce Agreement, which provides potential local economic benefits, such as the hiring of Hayward residents.

The economic impact of the Recycled Water Project on customers will, to some extent, depend on the total costs to implement the City's Recycled Water Project, which includes the capital and operating costs for the storage and distribution system and recycled water treatment

facility. To the extent that the project is partially funded by grants, the overall cost impact to customers is reduced. On July 2, 2019, Council adopted a recycled water rate structure that provides a balance between recovering costs over the life the project and offering an incentive to customers who are able to receive recycled water. The community as a whole will benefit from this project through greater diversity and reliability of water supplies, especially during periods of drought.

FISCAL IMPACT

The total estimated costs for the Recycled Water Customer Onsite Conversions are as follows:

Construction Contract	\$ 1,376,000
Administrative Construction Contingency (ACO)	\$ 70,000
Meter and Service Line Installation (City)	\$ 75,000
Construction Management, Inspection, Training, Permitting (Consultant)	\$ 281,935
Inspection, Training, and Permitting (City)	\$ 50,000
Horticulture Support (Consultant)	\$ <u>10,000</u>
Total	\$ 1,862,935

Total Phase I Recycled Water Project Cost

The total estimated capital cost to construct all facilities needed for Phase I of the Recycled Water Project, including the Customer Conversions, is shown in Table 1. The total cost for the treatment facility, storage and distribution system, and customer conversions is currently estimated at \$28,155,000.

The Ten-Year Capital Improvement Program (CIP) includes \$27,811,000 for the Recycled Water Storage and Distribution System Project (Project No. 07507) and \$2,300,000 for the Recycled Water Treatment Facility Project (Project No. 07710), for a total funding amount of \$30,111,000 for Phase I of the Recycled Water Project. The Recycled Water Project is currently anticipated to come in under budget, primarily due to the construction of the distribution system pipelines that was completed nearly one year ahead of schedule and under budget. The Recycled Water Project will not impact the General Fund.

The City has also secured outside grant funding and low interest loans to help finance the Recycled Water Project. In May 2017, the City executed a financing agreement with the State Water Resources Control Board for \$5.8 million in California Proposition 1 grant funding and \$13.5 million in the form of a low-interest Clean Water State Revolving Fund loan. The financing agreement was amended in November 2018 to increase the amount of the low-interest loan from \$13.5 million, which had been previously secured for the project, to \$21.2 million, for a total financial assistance package of \$27 million.

Table 1. Phase I Recycled Water Project Capital Cost Estimate

FACILITY	ESTIMATED COST
Recycled Water Storage and Distribution System Project (Project No. 07507)	
Administration, Planning and Design	\$ 2,897,616
Construction	
Whitesell Pipeline (<i>completed in 2015</i>)	\$ 513,648
Distribution System Pipelines (<i>completed in June 2019</i>)	\$ 15,290,718
Storage Tank and Pump Station (<i>currently under construction</i>)	\$ 5,290,718
Customer Retrofits (<i>advertise in July 2019</i>)	\$ <u>1,862,935</u>
Total (rounded to nearest thousand)	\$ 25,856,000
Recycled Water Treatment Facility Project – Phase I (Project No. 07710)	\$ 2,299,000
TOTAL ESTIMATED PHASE I RECYCLED WATER PROJECT COST	\$ 28,155,000

STRATEGIC INITIATIVES

Implementation of the Recycled Water Project supports the Tennyson Corridor Strategic Initiative. The purpose of this initiative is to develop an attractive, cohesive, thriving Tennyson Corridor through thoughtful engagement with residents, businesses and community partnerships. There are two sites located in the Tennyson Corridor that are proposed to be connected to the recycled water system, and would therefore support the following goal and objectives:

- Goal 3: Improve Community Appearance
 - Objective 1: Enhance landscaping
 - Objective 3: Decrease blight

The use of recycled water will help create attractive outdoor spaces in the Tennyson Corridor. Since recycled water is a sustainable and drought-proof source of supply, customers will be able to maintain their landscaping during water supply shortages when drinking water supplies are limited.

SUSTAINABILITY FEATURES

The use of recycled water will reduce the demand for drinking water and improve the reliability and availability of drinking water, while providing a sustainable and drought-proof water supply for some irrigation uses. It will also reduce the volume of wastewater and associated nutrients and residual pollutants discharged to San Francisco Bay, which is required to meet increasingly stringent discharge regulations.

PUBLIC CONTACT

The City completed an environmental review of the Recycled Water Project in October 2014 and a draft Initial Study/Mitigated Negative Declaration (IS/MND) was circulated for a thirty-day public review from October 24, 2014 through November 24, 2014. The IS/MND was adopted on December 16, 2014, incorporating all the comments that were received. The Recycled Water Ordinance, which includes provisions for mandatory use of recycled water for appropriate irrigation and industrial uses, was introduced at a public hearing of the City Council on December 1, 2015 and adopted on December 15, 2015. Prior to the adoption of the Ordinance, a customer meeting was held on November 20, 2015 at City Hall to inform the customers about the City's proposed Recycled Water Project.

As described earlier, staff and HydroScience have been working closely with potential customers to design onsite piping modifications that would be required to connect a customer to the new recycled water distribution system. This close coordination with customers will continue throughout the construction, testing, and permitting phase. HydroScience will also be implementing educational efforts to train site supervisors, including City staff, on the use of recycled water to ensure a smooth transition. Informational materials on the Recycled Water Project can be viewed at the following website.¹

NEXT STEPS

Following Council approval, staff will advertise the project for public bidding. Staff will return to Council for award of the construction contract after bids have been received and reviewed. The following schedule has been developed for this project:

Receive Bids	August 20, 2019
Award Construction Contract	September 10, 2019
Notice to Proceed	September 27, 2019
Initiate Recycled Water Service	Spring 2020

Prepared by: Aparna Chatterjee, Associate Civil Engineer

Recommended by: Alex Ameri, Director of Public Works

Approved by:



Kelly McAdoo, City Manager

¹ <https://www.hayward-ca.gov/your-government/departments/utilities-environmental-services/recycled-water>