



DATE: January 9, 2023

TO: Honorable Mayor and Members of the City Council through City Manager

FROM: Sumeet Shastri, Assistant Engineer I, Public Works & Utilities (PW&U)
Josh Minshall, PE, Senior Civil Engineer, PW&U
Jonathan Sanglerat, PE, Engineering Manager, PW&U
Gina Benedetti-Petnic, PE, Assistant Director, PW&U
Christopher J. Bolt, MPA, PE, CPM, ICMA-CM, Director, PW&U

SUBJECT: Resolution Authorizing the Award of Contract for the Ellis Creek Tertiary Filtration System Expansion Project – UV Disinfection Equipment to C. Overaa & Company, and Finding this Item has been Addressed in a Previously Certified Environmental Impact Report

RECOMMENDATION

It is recommended that the City Council adopt the attached Resolution authorizing the award of Contract for the Ellis Creek Tertiary Filtration System Expansion Project – UV Disinfection Equipment to C. Overaa & Company, finding this item has been addressed in a previously certified environmental impact report and no separate, subsequent, or supplemental review is warranted, and finding that this project is categorically exempt pursuant to CEQA Guidelines Sections 15301.

BACKGROUND

To meet growing demands for recycled water, the Ellis Creek Water Recycling Facility (ECWRF) requires upgrades to its filtration and ultraviolet light (UV) disinfection processes. Treatment to tertiary standards allows recycled water to be utilized for unrestricted use, including irrigation for rural and urban applications. Demand for recycled water is expected to grow as additional distribution lines are constructed within the City and to adjacent agricultural properties.

The Tertiary Filtration System Expansion Project includes the recoating of three UV channels, replacement and expansion of UV disinfection systems, and expansion of the filtration with cloth media filters for tertiary treatment. The Phase 1 coating work was bid and awarded on November 7, 2022, in Resolution 2022-173 N.C.S. and the work is scheduled to begin in January 2023.

This contract award is part of the Phase 2 scope of work which primarily involves upgrading the UV disinfection equipment. The existing UV disinfection system is manufactured by Suez

Treatment Solutions Inc. (Suez) and consists of 20 HO Generation 1 UV Modules which were installed in 2009. The modules are in two concrete channels approximately three feet wide, 55 feet long, and nine feet deep. The facility was built with a total of three identical channels to accommodate future expansion for up to thirty UV modules. The proposed overall increase in flow rates for the tertiary system expansion requires additional UV treatment capacity. The City has determined that the use of the Aquaray 40 HO Vertical Lamp Generation 2 Modules (Generation 2 Modules) by Suez is the most cost-effective option for the planned increase in capacity. This project will remove the existing twenty Generation 1 Modules and replace them with thirty Generation 2 Modules.

The Aquaray 40 HO Vertical Lamp Generation 2 Modules have been chosen because they have improved performance and are the same dimensions as the Generation 1 Modules. This will allow for easy replacement of the Generation 1 Modules with the Generation 2 Modules without modifying the existing concrete channels. Channel design is a critical element of the effectiveness of treatment. Additionally, the Generation 2 Modules offer the benefit of higher energy efficiency, greater operational control, and ease of maintenance. Installing the Generation 2 Modules will result in considerable cost savings due to the ability to reuse not only the existing channels, but also the existing weirs, air lines, blower, dip tank, and overhead lifting device.

Additional site improvements include the installation of a canopy to protect the facility and maintenance activity, as well as the replacement of aging plumbing components and the upgrade of the associated electrical components/controls. A plug system will be added to allow for quick connection of backup power.

DISCUSSION

On May 18, 2020, in Resolution 2020-064 N.C.S., the City Council made a sole source finding to allow for pre-negotiation of the Aquaray 40 HO Vertical Lamp Generation 2 Module System. The City Council approved the purchase of Aquaray 40 HO Vertical Lamp Generation 2 Modules from Suez Treatment Solutions, Inc in Resolution 2022-155 N.C.S on September 19, 2022. A Pre-Submittal value of \$85,290.00 was approved to allow the manufacturer to begin the lengthy process of preparing for the fabrication of the equipment. To take over the remainder of the total pre-negotiated purchase price of \$1,182,710.00 and to install the purchased equipment, a qualified contractor is necessary.

City staff and Carollo Engineers, the City's engineering consultant, prepared design documents and specifications for the project and issued a Notice Inviting Bids on September 9, 2022. On December 1, 2022, three (3) bids were received as follows:

Name of Bidder	Bid Total
*C. Overaa & Company	\$3,061,000.00
Pacific Infrastructure Corporation	\$3,681,650.00
Terracon Constructors Inc	\$3,740,691.00

***Lowest Responsible Bidder**

The lowest responsible bidder, C. Overaa & Co., is a contractor capable of completing the work specified for this project including UV module installation and has a diverse portfolio of projects including constructing and installing water treatment infrastructure. C. Overaa & Co. has satisfactorily completed numerous complex municipal and private projects involving wastewater treatment plant equipment for more than 20 years, including UV disinfection improvements at the Shasta Lake Wastewater Treatment Plant. Furthermore, C. Overaa & Co. successfully installed Digester No. 2, associated heating and mixing components, hot water loop, heat exchanger, and gravity belt thickener No. 2 at the ECWRF during the Solids Handling Upgrade Project, proving their reliability in installing complex water treatment infrastructure. C. Overaa & Co. has a Class A California State Contractor's License No. 106793 which expires on May 31, 2023, that qualifies the Contractor to perform the work. There have been no bid protests and the time to protest the proposal has lapsed. For these reasons it is recommended that the Council adopt the resolution awarding the contract to the lowest responsible bidder, C. Overaa & Co., in the amount of \$3,061,000.00.

Construction activity is currently planned to both begin and be completed in September through December of 2023, to meet the preferred schedule and to allow for the procurement of materials that require longer lead times. The project is expected to have minor impacts on recycled water production during construction. However, these impacts will be minimized by keeping at least one of the three treatment channels in service. Furthermore, the work is scheduled to occur after the peak recycled water season, when agricultural demand for recycled water is greatly reduced. Construction management and general inspection services will be conducted by City staff, with support from the design engineer, Carollo, and special inspections provided by consultants yet to be determined.

PUBLIC OUTREACH

This agenda item appeared on the City's tentative agenda document on December 19, 2022, which was a publicly noticed meeting.

COUNCIL GOAL ALIGNMENT

The proposed action meets the City Council Goals through the following Work Plan Items:

- #42 – Find ways for City operations to reduce greenhouse gas emissions, conserve water, decrease waste, and minimize the use of fossil fuels and investigate and pursue options for carbon sequestration.
- #46 – Establish and promote a citywide sustainability program leading with exemplary environmental practices.
- #53 – Continue to expand recycled water services to support local agriculture and groundwater and surface water resources.
- #70 – Continue focus on water conservation and urban recycled water expansion.

CLIMATE ACTION/SUSTAINABILITY EFFORTS

This proposed action supports the above goals, and when implemented will increase the production of recycled water to meet greater demands for irrigation purposes throughout Petaluma.

The Petaluma Climate Action Framework Section 3, “Adaptation & Social Resilience” identifies the following climate action goal: “Develop resilient infrastructure and community readiness, including backup sources of water, power, and communications.” This project promotes the reliability of water sources by allowing for increased availability of recycled water and enhances the resilience of the UV treatment system which is critical to producing recycled water at ECWRF. Although a backup generator itself is not included, the infrastructure improvements will be set up to allow for the quick connection of one, if needed.

ENVIRONMENTAL REVIEW

The original Environmental Impact Report (EIR) for the ECWRF was certified in August 2002 and subsequently modified in April 2004, August 2005, February 2006, and May 2007 (SCH # 2007052146). On May 7, 2007, the City Council adopted Resolution 2007-080 N.C.S. certifying an addendum to the ECWRF EIR approving proposed project revisions and adopting findings of fact regarding changes to the ECWRF to increase peak capacity for tertiary treatment from 4.0 to 6.7 MGD.

On August 14, 2018, the Sonoma County Water Agency Board, acting as the lead agency for the North Bay Water Reuse Authority (NBWRA) and as the lead agency pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) certified the NBWRA Phase 2 Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) (SCH #2017072051). On September 17, 2018, the City Council, acting as an NBWRA member agency and as a responsible agency under CEQA adopted Resolution 2018-147 N.C.S. approving and declaring the City’s intent to carry out City projects identified in the NBWRP Phase 2 EIR/EIS, adopting a mitigation monitoring and reporting plan, and a statement of overriding considerations. The Phase 2 Program projects evaluated in the EIR/EIS included increasing the tertiary capacity at the ECWRF from 6.7 million gallons per day to 6.8 million gallons per day, expanding the urban recycled water distribution system, and agricultural recycled water expansion. The environmental impacts related to the tertiary process upgrades have been addressed in the environmental review conducted as part of the original ECWRF EIR, the May 7, 2007, addendum, the original Water Recycling Enhancement Plan EIR, the December 2015 and May 2018 addenda, August 14, 2018, NBWRA FEIR/EIS, and Resolution 2018-147 N.C.S. adopted September 17, 2018. No separate, subsequent, or supplemental environmental review is warranted for this action.

Furthermore, this project is categorically exempt pursuant to CEQA Guidelines Sections 15301 (existing facilities) as this project involves the coating of already existing facilities.

FINANCIAL IMPACTS

The total approved budget for the Ellis Creek Tertiary Filtration System Expansion Project is \$20,029,000 (All Phases), as shown in the FY 2022/2023 Capital Improvement Project (CIP) Budget. The following is a breakdown of the approved budget for the current fiscal year 22/23, fiscal years 23/24 and 24/25, and the Approved Total project budget:

Itemized Budget Breakdown	Approved FY 22/23 CIP Budget (Current Phase)	FY 23/24 CIP Budget	FY 24/25 CIP Budget	Approved Total Project Budget (All Phases)
Uses				
Planning/Environmental	\$ 0	\$ 50,000		\$ 60,000
Land & Easements	\$ 0	\$ 0		\$ 0
Design	\$ 80,000	\$ 125,000		\$ 1,546,000
Legal Services	\$ 0	\$ 0		\$ 0
Administration	\$ 0	\$ 0		\$ 0
Construction Contracts	\$2,700,000	\$6,250,000	\$6,250,000	\$ 16,100,000
Construction Management	\$ 150,000	\$ 200,000	\$ 200,000	\$ 631,000
CIP Overheads	\$ 15,000	\$ 20,000	\$ 20,000	\$ 92,000
Contingency	\$ 300,000	\$ 600,000	\$ 600,000	\$ 1,600,000
TOTAL	\$3,245,000	\$7,245,000	\$7,070,000	\$20,029,000

Funding Sources	Approved 22/23	Projected 23/24	Projected 24/25	Approved Total CIP Budget
Wastewater Capital Funds	\$3,245,000.00	\$7,245,000.00	\$3,469,000.00	\$16,429,000.00
DWR Grant via NBWRA			\$3,600,000.00	\$ 3,600,000.00
TOTAL	\$3,245,000.00	\$7,245,000.00	\$7,069,000.00	\$20,029,000.00

The project is funded through the Wastewater Capital Funds account and DWR Grant via NBWRA.

In addition, a separate grant has been awarded to Petaluma through the North Bay Water Reuse Program from the US Bureau of Reclamation which includes up to 25% match towards the Ellis Creek Tertiary Treatment Expansion (all phases) for \$4.7 million based on an estimate of \$18.8 million. The grant also includes the Adobe Road Pipeline Expansion and Maria Road Pipeline Expansion projects. The application for this grant funding was Authorized by City Council on March 21, 2022 (https://petaluma.granicus.com/GeneratedAgendaViewer.php?view_id=31&clip_id=3591).

The construction contract for this portion of the work was below the estimate used for the FY22/23 budget, in part as a benefit of the pre-negotiated UV equipment cost. The UV equipment represents roughly a third of the cost for this phase.

ALTERNATIVES

The City Council may choose not to adopt this resolution. If the Council does not adopt this resolution, UV disinfection equipment will not be replaced and the existing equipment will require additional maintenance as it is nearing the end of its service life. Without the upgraded equipment and activation of the third channel, the City will not be able to increase the production of recycled

water at ECWRF. There is less redundancy in the existing system which is less resilient to disruption of service. Based on these factors, it may become increasingly difficult to maintain recycled water production rates. Furthermore, this will interrupt the completion of the overall Tertiary Filtration Expansion Project, which involves expanding tertiary filtration to use cloth media filters at a later phase and may risk not meeting the requirements for grant funding.

ATTACHMENTS

1. Resolution
2. Location Map