



DATE: December 17, 2024

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT: Adopt a Resolution Authorizing the City Manager to: Award a Construction Contract to Redwood Painting Co., Inc., for the Water Resource Recovery Facility (WRRF) North Vacuator Rehabilitation Project in an amount not-to-exceed \$358,481; Enter into a Professional Services Agreement with Coating Specialists and Inspection Services, Inc., in an amount not-to-exceed \$44,080; and Appropriation of Funds in the amount of \$402,561

RECOMMENDATION

That Council adopts the attached resolution (Attachment II) authorizing the City Manager to award a construction contract to Redwood Painting Co., Inc., (Redwood) for the Water Resource Recovery Facility (WRRF) North Vacuator Rehabilitation Project in an amount not-to-exceed \$358,481; enter into a professional services agreement with Coating Specialists and Inspection Services Inc., in an amount not-to-exceed \$44,080; and appropriation of funds in the amount of \$402,561 from the Sewer System Replacement Fund (Fund 611).

SUMMARY

The North Vacuator at the WRRF has been out of service for close to a year and is in need of repair. The approximately 50-foot-diameter, 20-foot-tall concrete structure was built in 1958 and includes mechanical components and a self-supported concrete dome roof. In January 2024, the North Vacuator was shut down after a failure of the internal rotating sludge/scum collector occurred. Subsequent inspections by WRRF staff revealed severe corrosion of the internal rotating mechanism with subsequent failure of internal parts, as well as some degradation of the interior dome concrete surfaces due to coatings failure and exposure to hydrogen sulfide.

Coating Specialists and Inspection Services, Inc., (CSI) was engaged to perform a condition assessment of the North Vacuator. CSI conducted a maintenance inspection on April 25, 2024 and presented the results of their findings in a report dated June 21, 2024. Overall, CSI judged the exterior of the North Vacuator to be in a satisfactory condition, while determining the interior needs repairs. The underside of the concrete dome was found to be in poor condition with heavy to severe corrosion including structural loss and localized areas of

exposed rebar. The metallic elements within the tank, including the piping, were found to be heavily corroded with some structural loss. In addition, CSI noted that the tank lining was at the end of its service life and in need of replacement.

Staff prepared a request for quote (RFQ#25-019) package for the repairs that was subsequently posted for bids on November 5, 2024 by the Purchasing Division. On November 22, 2024, four (4) bids were received ranging from \$341,410 to \$594,355. Redwood submitted the low bid of \$341,410, which was 21% below the Engineer's Estimate of \$430,000. Staff reviewed the bids, and have determined the low bidder, Redwood to be responsive and qualified to perform this work. Because the nature of this work involves retrofit of an existing structure, and because additional issues may be uncovered during surface preparation (sand blasting) of existing surfaces, a change order contingency of 5% is recommended in the event of unforeseen conditions or if additional coatings or repairs are necessary over and above what was identified in the RFQ package. Staff recommend awarding the construction contract to the lowest responsive and responsible bidder, Redwood, in an amount not-to-exceed \$358,481, including Administrative Change Orders.

This project is categorically exempt from environmental review under Section 15301(c) of the California Environmental Quality Act (CEQA) Guidelines for the operation, repair, maintenance, or minor alteration of existing facilities.

BACKGROUND

The City owns and operates the WRRF that treats approximately 11 million gallons per day (MGD) of wastewater from Hayward residences and businesses prior to discharge to the San Francisco Bay. The liquid stream treatment process at the WRRF includes influent pumping followed by the use of a vacuator as part of the preliminary treatment process, primary clarification, secondary treatment via trickling filters/solid contact basins, secondary clarification, and disinfection prior to discharge to the East Bay Dischargers Authority (EBDA) outfall. There are two Vacuator structures at the WRRF (North and South); however, both structures are currently out of service. The much smaller South Vacuator has been out of service for over 11 years, while the North Vacuator has been out of service for nearly a year.

When in use, the vacuator removes grit and floating debris (grease/scum) from raw wastewater prior to primary treatment. Grit that is removed in the vacuator process is sent to a grit washing facility that cleans the grit prior to discharge to a bin that ultimately is hauled to a landfill for disposal. Floating debris is skimmed off the top of the water surface and directed to the sludge blending tank before sending to the digesters for further processing. When the vacuator process is out of service, WRRF staff must bypass flows directly to the primary clarification process where in addition to removing primary sludge, grit and grease must also be removed. Grit removal in the primary clarifiers results in increased sludge flows and other maintenance issues related to handling grit including increased wear and tear on the primary sludge pumps and rotary lobe pumps used in the solids thickening process. In addition to wear and tear, increased grit loading to the

primary clarifiers can cause pipes to clog causing the need to remove the clarifiers from service to clear out the sludge lines. The possibility of clogging is increased during wet weather events when grit loading to the plant increases.

The Phase II Project at the WRRF includes plans for a new grit facility to replace the vacuator process. However, these Phase II upgrades won't be operational for at least 8 to 10 years. Because of the maintenance and operational issues caused by not having a grit removal system, it is necessary to make the repairs needed to get the North Vacuator back online so that the WRRF treatment system can continue to perform as intended, and to minimize maintenance issues.

Specifically, the repairs include the following project elements

- coating of interior metal components
- coating of interior concrete surfaces
- interior concrete surface repairs
- interior steel component repairs
- grinding of edges of sludge and scum collector equipment

DISCUSSION

A Request for Quotation (RFQ#25-019) for coatings and concrete repairs for the North Vacuator Rehabilitation project was posted to the online bidding platform OpenGov on November 5, 2024 with a bid due date of November 22, 2024.

Due to the complexity of the coatings and repair work, the RFQ requires contractors to be certified by the Society for Protective Coatings (SSPC) QP-1 as qualified to apply industrial coatings, as well as being licensed Painting and Decorating Contractor (C-33) in the State of California. In addition, the contractors were required to demonstrate they have regularly been engaged in the application of similar coatings on concrete for at least five years immediately prior to this work.

The City received four (4) qualified bids for the Project, ranging from \$341,410 to 594,355. Redwood submitted the low bid in the amount of \$341,410, which is approximately 21% below the Engineer's Estimate of \$430,000. Because the project involves repairs of an existing facility, and additional \$17,071 (or 5% of the contract amount) is included for administrative change orders in the event additional funds are needed for unforeseen conditions and changes during construction. Therefore, the contract limit requested is \$358,481.

Special inspection services are required for the planned rehabilitation scope of work. Coatings and concrete repairs of the nature needed for this Project fall outside the expertise of City inspection staff. Application of coatings and concrete repairs require National Association of Corrosion Engineers (NACE) certified inspectors with specialty training and expertise in application of coatings to ensure proper procedures are followed. The City issued a request for proposal (RFP) to CSI on November 15, 2024 to perform special inspection and consulting services during construction of the North Vacuator rehabilitation

project. CSI submitted a proposal to furnish inspection services based on an hourly rate, with a total not-to-exceed budget of \$44,080. Services covered by the proposal include review of contractor submittals, surface preparation activities, field coating inspection services, and preparation of inspection records, reports, and other documentation. The fee for inspection is 12% of the Construction Contract which is reasonable for the scope of services provided. Staff is requesting the Project include special inspection services performed on a time and materials basis with a total not-to-exceed budget of \$44,080.

ECONOMIC IMPACT

The modifications and continued upkeep of the existing treatment processes at the WRRF are essential to continue to maintain effective treatment of the City’s wastewater. By rehabilitating the North Vacuator, the City can restore an existing component of the treatment facility that will improve plant performance and reliability, as well as reduce maintenance/repairs on existing sludge pumping systems until the new Grit Facility constructed as part of the WRRF Improvements - Phase II Project is operational.

The community will enjoy the benefits of the project, including maintaining effective treatment that provides environmental protection of the San Francisco Bay.

FISCAL IMPACT

The total estimated costs for the North Vacuator Rehabilitation Project are as follows:

Project Tasks	Cost
Construction Contract (including administrative change orders)	\$358,481
Special Inspection & Engineering Services (CSI, Services, Inc.)	<u>\$ 44,080</u>
Total	\$402,561

Appropriation of Funds

The adopted FY 2025 CIP does not have funds identified for the North Vacuator Rehabilitation Project. The Project is necessary due to an unanticipated outage caused by corrosion and subsequent failure of the internal rotating mechanism. Subsequent inspection determined additional concrete repairs and coatings are necessary to return the process to reliable operation. Repairs and coatings are necessary to keep the vacuator process operational until the new Grit Facility, constructed as part of the WRRF Improvements – Phase II Project, is operational (anticipated to be 2032-2034).

Staff recommends that Council authorize the City Manager to appropriate funds in the amount of \$402,561 from the Sewer System Replacement Fund (Fund 611) to fully fund the project in FY 2025. Sufficient fund balance is available to cover the necessary appropriation. There will be no impact to the General Fund.

STRATEGIC ROADMAP

This agenda item supports the various goals of Council’s Strategic Roadmap. The North Vacuator Rehabilitation project at the WRRF increase the reliability of the City’s treatment plant in advance of the upgrades of the Phase II Project, while supporting the goals of Council. Specifically, this item relates to the implementation of the following strategic objectives:

Invest in Infrastructure

- *Invest in City-owned facilities & property*
- *Enhance local water supplies and wastewater systems*

SUSTAINABILITY FEATURES

All project work is related to operations and maintenance of the existing WRRF aged facilities; therefore, no sustainability features are included in this project.

PUBLIC CONTACT

All project work will be within the WRRF plant boundary and should have no impact on area businesses or the public at large; therefore, no public contact is necessary for this project.

SCHEDULE/NEXT STEPS

The following schedule has been developed for this project:

Award Construction Contract	December 17, 2024
Notice to Proceed	January 6, 2025
Project Completion	June 23, 2025

The Project is tentatively scheduled to start in January 2025 and anticipated to be completed within 168 calendar days (24 weeks) from the contractor’s Notice to Proceed date.

Prepared by: Steven Wolfe, Associate Civil Engineer
Suzan England, Utilities Engineering Manager

Recommended by: Alex Ameri, Director of Public Works

Approved by:

A handwritten signature in blue ink, consisting of a stylized 'D' followed by a horizontal line and a loop.

Dustin Claussen, Interim City Manager