



Legislation Text

File #: 2022-1093, **Version:** 1

To: Board of Directors, Sonoma Valley County Sanitation District

Department or Agency Name(s): Sonoma County Water Agency, Sonoma Valley County Sanitation District

Staff Name and Phone Number: Carlos Diaz 707-547-1956

Vote Requirement: Majority

Supervisory District(s): First

Title:

Engineering and Design Services for Sonoma Valley County Sanitation District Treatment Plant Influent/Effluent Pumping and Piping Upgrade Project

Recommended Action:

- A) Authorize Sonoma County Water Agency's General Manager, acting on behalf of Sonoma Valley County Sanitation District to execute an agreement with Water Systems Consulting, Inc., in a form approved by County Counsel, for engineering and design services for Sonoma Valley County Sanitation District Treatment Plant Influent/Effluent Pumping and Piping Upgrade Project through December 31, 2025, in the not-to-exceed amount of \$800,000.
- B) In addition to the authorities granted under Resolution 20-0092, authorize Sonoma County Water Agency's General Manager acting on behalf of Sonoma Valley County Sanitation District to amend the agreement to extend the term, make modifications to the scope of work, and increase costs provided amendments do not cumulatively increase the total cost to Sonoma Valley County Sanitation District by more than 10 percent.

(First District)

Executive Summary:

Sonoma Valley County Sanitation District (District) needs to replace critical mechanical pumping equipment and related piping systems at its wastewater treatment plant (WWTP). Both raw influent and effluent pumping systems need replacement. The raw influent pumps move raw wastewater inflows after screening to grit removal and subsequent downstream treatment processes at the WWTP. The effluent pumps move tertiary treated wastewater primarily to recycled water storage and occasionally to the Schell Slough discharge during periods of wet weather. The existing pumping systems and associated electrical equipment have reached the end of their useful life and require routine and significant maintenance. This project includes design, environmental review, and construction to upgrade and replace the existing influent and effluent pumping and piping systems at the District's WWTP.

Discussion:

HISTORY OF ITEM/BACKGROUND

District's WWTP is located in southeastern Sonoma County just south of the City of Sonoma and receives and treats wastewater from a service area including the City of Sonoma and unincorporated communities in the Sonoma Valley, including Glen Ellen, Eldridge, Agua Caliente, Feters Hot Springs, Boyes Hot Springs, El Verano, Temelec, Vineburg, and Schellville. District provides wastewater collection, conveyance, and treatment to an

existing population of approximately 36,000 people. Average dry weather flows to the WWTP are approximately 3 million gallons per day (mgd), with peak daily wet-weather flows rising to 30 mgd.

Wastewater flows by gravity to the WWTP headworks and passes through three new perforated plate screens recently installed in Summer/Fall 2022. Screened wastewater then flows into an influent wet well before being pumped to the grit removal structure and subsequent downstream treatment processes at the WWTP.

The Influent/Effluent Pump Building (IEPB) was originally constructed in 1966 and houses four influent and three effluent pumps in the building basement. The influent pumps, each rated at 125 horsepower, were installed in 2001. A fifth pump (designated the “swing” pump) was recently eliminated due to potential cross-contamination concerns and is now dedicated to effluent pumping. The four influent pumps are controlled by existing variable frequency drives (VFDs) dating back to 1978 and new parts are no longer available.

The effluent pumps include two vertical non-clog pumps, each rated at 75 horsepower, that were installed in the early 1990’s and the swing pump described above. The effluent pumps discharge via a 36-inch diameter steel pipe to send tertiary treated wastewater to Schell Slough or via an 18-inch steel pipe for discharge to either recycled water storage or directly to the recycled water distribution system.

Most of the influent and effluent suction and discharge piping is mortar-lined steel dating from a 1978 treatment plant upgrade. Corrosion and erosion of the influent discharge steel pipe walls has resulted in two leaks that have been addressed with pipe repair clamps, and ultrasonic testing indicates that corrosion and erosion have reduced the pipe wall thickness throughout the piping system.

District’s Influent/Effluent Pumping and Piping Upgrade Project (Project) includes replacing the existing mechanical influent and effluent pumps with new equipment, replacing associated aging and corroded piping systems. Influent and effluent wet well modifications may also occur to accommodate pumping capacity, configuration, and redundancy being evaluated as part of the design. Electrical upgrades are also needed, including new VFDs and reduced-voltage motor starters for the influent and effluent pumps, new programmable logic controls (PLCs), and control logic upgrades.

SELECTION PROCESS

Water Systems Consulting, Inc. (Consultant) was selected from a list of qualified consultants developed from a competitive selection process. Attached is a memo that explains the competitive selection process.

Consultant was selected for the subject work because of their prior experience, qualifications, and demonstrated ability to perform similar work.

SERVICES TO BE PERFORMED

Under the proposed agreement, Consultant will provide engineering design services including, but not limited to, planning, design, drafting, specification preparation, and assistance during bidding and construction for the Project, including the design of new influent and effluent pumps and associated upgrades to mechanical piping and electrical and controls equipment.

The cost of services will not exceed \$800,000; the term end date is 12/31/2025.

County Strategic Plan: N/A

Sonoma Water Strategic Plan Alignment:

Waste Water Treatment and Water Reuse, Goal 1: Improve operational reliability of wastewater treatment and water reuse systems.

The District's aging influent and effluent pumping systems and associated electrical, controls, and piping systems have reached the end of their useful life and require routine and significant maintenance. This project will replace this aging infrastructure and is critical to maintaining operational reliability of the District's WWTP.

Prior Board Actions:

N/A

FISCAL SUMMARY

Expenditures	FY 22-23 Adopted	FY23-24 Projected	FY 24-25 Projected
Budgeted Expenses	\$662,000	\$138,000	
Additional Appropriation Requested			
Total Expenditures	\$662,000	\$138,000	
Funding Sources			
General Fund/WA GF			
State/Federal			
Fees/Other	\$662,000	\$138,000	
Use of Fund Balance			
Contingencies			
Total Sources	\$662,000	\$138,000	

Narrative Explanation of Fiscal Impacts:

Budgeted amount of \$662,000 is available from FY 2022/2023 appropriations for the Sonoma Valley County Sanitation District Construction Fund.

FY 2023/2024 appropriations will be budgeted in that fiscal year.

Narrative Explanation of Staffing Impacts (If Required):

N/A

Attachments:

Attachment 1: Selection Memo

Related Items "On File" with the Clerk of the Board:

None