Important Notice

Attached is a revised staff report for Item 6.1 for the November 7, 2023 SCV Water regular Board meeting. Changes are shown in red and are reflected on the amended Agenda. There were no other changes other than what is shown in red.

Thank you.

ITEM NO. 6.1

REVISED

BOARD MEMORANDUM

DATE: October 25, 2023

TO: Board of Directors

FROM: Rafael Pulido
Water Treatment Manager

SUBJECT: Approve a Contract with Waste Management Services to Transport and Dispose of Approximately 2,8005,100 Tons of Treatment By-Products

---

SUMMARY

As part of SCV Water's commitment to delivering reliable, high-quality water, SCV Water operates and maintains two surface water treatment facilities, the Earl Schmidt Filtration Plant (ESFP) and the Rio Vista Water Treatment Plant (RVWTP). A key treatment process is the removal of particles, including microbiological contaminants, from the source water through the process of clarification and filtration. This process removes suspended solids and contaminants by mechanical straining and/or adhesion. To maintain clarifier and filter integrity, the trapped particulates must be periodically flushed from units through a wash cycle. The spent wash water is collected in the wash water return basins where the suspended solids settle to the bottom and form a sludge as a by-product waste. The sludge is placed in drying beds and dewatered. Periodically the sludge in the drying beds must be removed and either stored on site or sent to a landfill. The period between drying bed cleanings averages about seven years and is dependent on the number of high turbidity events between cleanings. On average 1,300 tons of sludge is removed from the four drying beds at RVWTP and 800 tons of sludge is removed from three drying beds at ESFP every seven years. Prior to disposal at a landfill the sludge is sent to a laboratory for analysis to ensure that the dried sludge is below Department of Toxic Substance Control (DTSC) regulatory Total Threshold Limit Concentrations.

DISCUSSION

The ESFP and RVWTP are both Alternative Technology Filtration Plants which employ up flow contact clarification and deep mono-media filtration. The clarification and filtration process removes suspended solids and contaminants, such as arsenic which are naturally occurring in the watershed, by mechanical straining and/or adhesion. To maintain clarifier and filter integrity, the trapped particulates are periodically flushed from units through a wash cycle. The spent wash water is collected in the wash water return basins where the suspended solids settle to the bottom and form a sludge as a treatment by-product waste. The sludge is placed in drying beds and dewatered. Periodically the sludge in the drying beds must be removed and either stored on site or sent to a landfill. On average 1,300 tons of sludge is removed from the four drying beds at RVWTP. The period between drying bed cleanings averages about 7 years and is dependent on the number of high turbidity events between cleanings. Prior to disposal at a landfill the sludge is sent to a laboratory for analysis to ensure that the dried sludge is below Department of Toxic Substance Control (DTSC) regulatory Total Threshold Limit Concentrations. Once the analysis is complete, the dry sludge is sent to the appropriate landfill for disposal.

During the most recent maintenance cycle on the drying beds at RVWTP it was determined to remove and dispose of the sludge offsite as there are currently three to four cleaning cycles or approximately 2,8005,100 tons of sludge on site. Samples were collected from the accumulated sludge and sent to Eurofins Laboratory for analysis. The results of the analysis for the sludge at the RVWTP showed the sludge to be well below DTSC regulatory Total Threshold Limit Concentrations. A secondary test, the Soluble Threshold Limit Concentration (STLC) revealed levels of arsenic above the California standard of 5 milligrams per liter as set by California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 Characteristic of Toxicity, which meant that the sludge was now classified as a hazardous solid waste. Kettleman Hills Hazardous Waste Landfill in Kettleman City California was chosen for disposal of the sludge. Upon Kettleman Hills internal review of the lab analysis, an additional Toxicity Characteristic Leaching Procedure (TCLP) was required to determine if the sludge was a Resource Conservation and Recovery Act (RCRA) waste or NON-RCRA waste. The TCLP results for the RVWTP sludge determined it was a NON-RCRA waste and therefore did not require additional treatment.

The following table provides details on one (1) quote received by staff. Due to the limited availability of disposal sites in California (2 locations) and transportation cost being over half the total, Kettleman Hills will be sole-sourced as it's the closest available location.

Item	Cost per Unit	Quantity	Waste Management
Waste Approvals Standards	$125.00	1	$125
Cost of Disposal at Kettleman Hills Landfill	$51.16	2,8005100 tons	$142,248260,916
Cost to Transport Sludge to Kettleman Hills Landfill	$65.55	2,8005100 tons	$183,540334,305
E-Manifest Charges	$25.00	108220 trucks	$2,7005,500
Certificate of Disposal cost	$40.00	108220 trucks	$4,3208,800
Kings County Tax	10%		$14,224.8026,092
Energy Standard Disposal Energy Fee	8.32%		$11,835.0321,708
Waste Water Management Fee	14.50%		$20,625.9637,833
Total Cost			$379,618.79695,279

STRATEGIC PLAN NEXUS

This project supports SCV Water's Strategic Plan B.5.1 – Maintain all facilities and appurtenances in a consistent fashion to achieve operational efficiency and D.1.1 – Meet all applicable water quality regulations.

FINANCIAL CONSIDERATIONS

Funds for this project are included in the FY 2023/24 Treatment Plants and Maintenance Expense account budgets in the amount of $380,000700,000.

RECOMMENDATION

Staff recommends that the Board of Directors authorize the General Manager to Approve a contract with Waste Management Services to transport and dispose of approximately 2,8005,100 tons of treatment by-products from the RVWTP in an amount not to exceed $380,000700,000.