City of Arts & Innovation

City Council Memorandum

TO: **HONORABLE MAYOR AND CITY COUNCIL** **DATE: NOVEMBER 19, 2024**

FROM: **PUBLIC WORKS DEPARTMENT** **WARD: 3**

SUBJECT: **APPROVE THE PURCHASE OF TWO (2) SERPENTIX MODEL-H CONVEYORS TO SERPENTIX CONVEYOR CORPORATION FROM WESTMINSTER, COLORADO, IN THE AMOUNT OF $2,769,350; AUTHORIZE A SUPPLEMENTAL APPROPRIATION IN THE AMOUNT OF $2,769,350 – SUPPLEMENTAL APPROPRIATION**

ISSUES:

Approve the purchase of two (2) Serpentix Model-H Conveyors to Serpentix Conveyor Corporation from Westminster, Colorado, in the amount of $2,769,350; and authorize a supplemental appropriation in the amount of $2,769,350.

RECOMMENDATIONS:

That the City Council:

1. Approve the purchase of two (2) Serpentix Model-H Conveyors to Serpentix Conveyor Corporation from Westminster, Colorado, in the amount of $2,769,350 as authorized under Purchasing Resolution 24101 Section 404 (Utilities Exception); and

2. With at least five affirmative votes, authorize the Chief Financial Officer, or designee, to record a supplemental appropriation in the amount of $2,769,350 from available Sewer Fund Reserves to the Rehab of the Biosolids Equipment Project expenditure account.

BACKGROUND:

The Riverside Water Quality Control Plant (RWQCP) treats wastewater generated within the City of Riverside and the communities of Edgemont, Highgrove, Jurupa, and Rubidoux. The RWQCP has a wastewater treatment capacity of approximately 52 Million Gallons per Day (MGD).

On December 19, 2023, the City Council awarded RFP No. 2222 for Biogas Upgrade and Digestate Management Facilities to Anaergia Services, LLC a Delaware limited liability company (LLC) doing business as Riverside Bioenergy Facility, LLC, a Delaware LLC. The City Council also approved the Lease and Energy Services Agreement with Riverside Bioenergy Facility, LLC a Delaware LLC, to accept and treat solid waste, particularly food waste, to leverage anaerobic digestion at the RWQCP, to address regulatory challenges on climate, waste disposal, biosolids management, and to maximize the potential of the RWQCP.

One of the processes in the treatment of food waste is solids handling. This operation includes sludge thickening, digestion, dewatering, and conveying the dewatered sludge to the silos for transportation to land application. The current solids handling facilities at RWQCP composes of one centrifuge and two screw presses for the dewatering of the digested sludge. In anticipation of additional food waste that needs to be handled as a part of the Public Private Partnership (P3) project with Anaergia Technologies, LLC, a second Centrifuge purchase was approved by the City Council on July 2, 2024.

The acceptance of food waste is anticipated to produce an extra 6 to 12 tons of dewatered solids that need to be conveyed to the storage silos. Currently, the existing sludge pumps that transfer the solids to the silos do not have the capability to lift the additional tonnage and need to be replaced. Further, not only these pumps require regular maintenance and downtime for parts replacement, they also need additional injection of reclaimed water as lubrication for the pumps to work effectively. The addition of water adds moisture back into the dewatered sludge, which in turn increases the disposal costs as transportation of sludge is based on weight.

The replacement of existing sludge transfer pumps with the Serpentix Conveyor system will transfer drier solids to the silos and significantly reduce the financial burden of disposing the dewatered sludge.

DISCUSSION:

The existing sludge transfer pumps were installed in 2016 and have had several maintenance issues due to the addition of reclaimed water for lubrication, causing downtimes for parts replacement. Due to operational ease and low maintenance requirements of the proposed conveyors, the RWQCP prefers to purchase the conveyors from Serpentix Conveyor Corporation.

Staff have done extensive research on this system, visited 4 different treatment plants who employed this equipment in Claremont, Rancho Sante Fe, and San Diego, and spoke to their operation and maintenance staff. It was concluded that the Serpentix Conveyor system has the capacity and capability to handle the current and build-out dewatered sludge. When factoring in the cost savings of transporting the water added heavy sludge and maintenance of the existing transfer pumps versus the Serpentix conveyors to transport the drier product, it is anticipated that the payback for this purchase would break even in approximately 4 years (Table 1).

Table 1 – Return on Investment Analysis

Project Cost	$2,769,350
Hauling & Maintenance Savings per year	$673,848
Project Payback in years	4
Return of Investment	24%

The Public Works Wastewater Division has a need for redundancy and continuous operation with minimum down time for maintenance to ensure efficient operations of the equipment. The City's Purchasing Resolution Exception allows the City to procure certain supplies, equipment, and materials through Informal Procurement or Negotiated Procurement. The conveyor system is considered an essential part of the Dewatering process, and is one of the items listed as qualified equipment for Informal Procurement or Negotiated Procurement.

Purchasing Resolution No, 24101, Section 404 (Utilities Exception) allows for the exception to competitive procurement, "The Water, Electric and Sewer Utilities have a need for compatibility

within their respective systems for uniform operation, maintenance and replacement, and this need can be met by procuring certain supplies, equipment, and materials supplies through Informal Procurement or Negotiated Procurement." Section 404 proceeds to list supplies, equipment and materials that qualify for this exception and this list includes "Dewatering Equipment, Parts and Repairs."

The Purchasing Manager concurs that the recommended action complies with Purchasing Resolution No. 24101, Section 404 (Utilities Exception).

STRATEGIC PLAN ALIGNMENT:

This item contributes to **Strategic Priority 6 – Infrastructure, Mobility and Connectivity** and **Goal No. 6.2** – Maintain, protect, and improve assets and infrastructure within the City's built environment to ensure and enhance reliability, resiliency, sustainability, and facilitate connectivity.

Furthermore, this project aligns with each of the Cross-Cutting Threads as follows:

1. **Community Trust** – Riverside is transparent and makes decisions based on sound policy, inclusive community engagement, involvement of City Boards & Commissions, and timely and reliable information. Activities and actions by the City serve the public interest, benefit the City's diverse populations, and result in greater public good. The proposed improvements are part of a significant endeavor to improve the solids dewatering process and to accommodate future growth. The new conveyors will be able to transport drier and higher volume of dewatered sludge to the silos. This equates to less trucking to dispose the sludge, thus improving the quality of life for residents in the service area due to reduced number of truck loads.

2. **Equity** – Riverside is supportive of the City's racial, ethnic, religious, sexual orientation, identity, geographic, and other attributes of diversity and is committed to advancing the fairness of treatment, recognition of rights, and equitable distribution of services to ensure every member of the community has equal access to share the benefits of community progress. The Project will improve the operational efficiency of the sewer wastewater treatment facility and provide a higher degree of service reliability for residents in the service area.

3. **Fiscal Responsibility** – Riverside is a prudent steward of public funds and ensures responsible management of the City's financial resources while providing quality public services to all. The proposed Project improvements will lower the sludge hauling and disposal costs, thereby providing significant cost savings for the City.

4. **Innovation** – Riverside is inventive and timely in meeting the community's changing needs and prepares for the future through collaborative partnerships and adaptive processes. This project provides an improved solution to address the efficiency challenges and accommodates future growth to handle solids at the RWQCP.

5. **Sustainability & Resiliency** – Riverside is committed to meeting the needs of the present without compromising the needs of the future and ensuring the City's capacity to persevere, adapt and grow during good and difficult times alike. The proposed improvements will reduce the hauling costs of the biosolids due to drier and lighter content of the disposable solids.

FISCAL IMPACT:

The total fiscal impact of this action is $2,769,350. Upon Council approval, a supplemental appropriation in the amount of $2,769,350 will be recorded in the Sewer Fund, Projects, Rehab of the Biosolids Equipment project expenditure account number 9917823-440301 for this purchase. There are sufficient Sewer Fund Reserves to accommodate the supplemental appropriation.

Prepared by:	Thuy Nguyen, Principal Engineer
Approved by:	Gilbert Hernandez, Public Works Director
Certified as to availability of funds:	Kristie Thomas, Finance Director/Assistant Chief Financial Officer
Approved by:	Kris Martinez, Assistant City Manager
Approved as to form:	Jack Liu, Interim City Attorney

Attachment: Serpentix Cost Proposal