



City of Arts & Innovation

Mobility & Infrastructure Committee Memorandum

TO: MOBILITY & INFRASTRUCTURE COMMITTEE DATE: MAY 11, 2023

FROM: PUBLIC WORKS DEPARTMENT WARD: 3

**SUBJECT: RIVERSIDE WATER QUALITY CONTROL PLANT BIOGAS AND DIGESTATE
MANAGEMENT UPGRADE FACILITIES - UPDATE**

ISSUE:

That the Mobility & Infrastructure Committee receive an update on the Riverside Regional Water Quality Control Plant (RWQCP) Biogas and Digestate Management Upgrade Facilities in support of a Sustainable and Self-Reliant Riverside.

RECOMMENDATION:

That the Mobility and Infrastructure Committee receive and file an update report on the Riverside Regional Water Quality Control Plant Biogas and Digestate Management Upgrade Facilities.

BACKGROUND:

In 2007, the City Council adopted a “*Sustainable and Resilient Riverside*” policy which included a vision and framework for sustainability and green practices going forward.

In October 2014, Governor Brown signed into law Assembly Bill 1826 requiring businesses to begin recycling their organic waste effective April 1, 2016. Local jurisdictions across the State were required to implement an organic waste recycling program to divert organic waste generated by businesses effective January 1, 2016. Organic waste includes food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper mixed in with food waste.

In September 2016, Governor Brown signed into law Senate Bill 1383 (SB 1383) establishing methane emission reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP) in various sectors of California's economy. SB 1383 establishes targets to achieve a 50% reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75% reduction by 2025. The law grants the California Department of Recycling Resources and Recovery (CalRecycle) the authority to achieve organic waste disposal reduction targets including that at least 20% of currently disposed edible food is recovered for human consumption by 2025 to reduce food waste and minimize landfill impacts.

The California Air Resources Board (ARB) identifies publicly owned (sewer) treatment facilities as key components in the State's strategy to reduce methane emissions. The SLCP Strategy,

adopted by ARB on March 23, 2017, outlines ARB's approach to achieve State mandates to reduce emissions of greenhouse gases. ARB outlines its plans to pursue the use of surplus digester capacity at publicly owned wastewater treatment facilities as a key component in the State's efforts to divert organic waste from landfills.

The Public Works Department, Wastewater Division operates the Regional Water Quality Control Plant (RWQCP) and manages the Sewer Enterprise Fund. In August 2020, City Council approved the Public Works Renewable Resources Management Plan (Plan) to respond to regulatory demands, pursue efficiencies, and address climate change and sustainability initiatives. The Plan defines eight goals across four resource areas: 1) Recycled Water Production; 2) Organics Receiving Treatment; 3) Energy Production and Independence; and 4) Waste Management and Reuse. The Wastewater Division has since worked to scope a project to improve community well-being, foster environmental stewardship, create economic opportunity, and enhance infrastructure to advance the Renewable Resources Management and Envision Riverside 2025 Strategic Plans.

Anaerobic digestion is the decomposition of biodegradable materials under low oxygen conditions. It is a common wastewater treatment practice for solid wastes including food waste. Anaerobic digestion produces two main products: digestate and biogas. Digestate is the non-gaseous material remaining after digestion. The RWQCP currently operates four anaerobic digesters. In March 2022 the City, in partnership with Burrtec Industries, was awarded a \$3 million grant from CalRecycle to rehabilitate RWQCP's Digester No. 5 to receive and process food waste.

To advance City strategic objectives, the Public Works Department solicited qualifications (Request for Quotes No. 2144), and later proposals (Request for Proposals No. 2222) from potential Public-Private-Partnership (P3) entities experienced in financing, designing, constructing, permitting, commissioning, operating, maintaining, and marketing renewable natural gas and digestate. Four P3 entities showed interest, and the two that were successfully pre-qualified were asked to submit proposals in December 2022.

In January 2023, the City Purchasing Division received two proposals. On February 13, 2023, the selection committee was provided formal presentations on each proposal from the pre-qualified P3 entities. On February 24, 2023, RWQCP staff were notified of the selection of the highest ranked proposer and given authorization to begin negotiations toward a public-private partnership. Negotiations are currently underway.

DISCUSSION:

The potential P3 project is the culmination of nearly a decade of focused strategic actions and improvements to hone the operation of the RWQCP and efforts to bring its full potential to bear for the benefit of City residents and businesses. It represents a major leap forward in optimizing infrastructure at the RWQCP to respond to regulatory demands, realize efficiencies, address climate change, and advance sustainability initiatives. It would further position the City of Riverside as a national leader in leveraging public infrastructure for maximum benefit in areas of renewable energy, waste diversion, and reuse.

Project Scope

Biogas generated from food waste digestion at the RWQCP can be upgraded with a renewable gas conditioning facility and injected into the Southern California Gas Company's gas main just outside the facility. Digested food waste digestate, the non-gas treatment by-product, could be

processed into Biochar. Biochar is a carbon-rich material that is made from biomass through a high-temperature conversion process. Both renewable natural gas and Biochar could create revenue streams and rate stabilization mechanisms for the City and the P3 Entity. Rehabilitation of Digester No. 5 would facilitate these opportunities. Organic waste recycling at the RWQCP would support SB1383 compliance. Listed below are anticipated benefits and related highlights from the project:

Advancing City Goals

- Community Well-Being – Permit compliance, minimum aesthetic impact, stakeholder collaboration, neighboring waste recovery facilities and rate stabilization.
- Environmental Stewardship – Maximize biomethane and digestate recovery and SB 1383 solutions.
- Economic Opportunity – Capital from P3 Entity, local employment and investment, phasing to expedite benefits and maximize revenue share.
- Infrastructure Enhancement – Technology solutions, ancillary capital upgrades, P3 Entity O&M minimizes cost and improves present and future value.

Enhanced Economics

- CalRecycle grant program demonstrates continued State support for organic digestion and biogas projects.
 - ORG5, 2021 - \$2 million for Digester No.5 rehabilitation
 - ORG7, 2023 – Up to \$13 million available for project scope

STRATEGIC PLAN ALIGNMENT:

This item supports **Strategic Priority 4 – Environmental Stewardship** and **Goal 4.6 – Implement requisite measures to achieve citywide carbon neutrality no later than 2040.** **Strategic Priority 5 – High Performing Government** and **Goal 5.2 – Utilize technology, data, and process improvement strategies to increase efficiencies, guide decisions and ensure services are accessible and distributed equitably citywide.** **Strategic Priority 6 – Infrastructure, Mobility, and Connectivity** and **Goal 6.3 – Identify and pursue funding opportunities to develop, operate, maintain, and renew infrastructure and programs that meet the community’s needs.**

This item aligns with each of the Cross-Cutting Threads as follows:

1. **Community Trust** – Management and capitalization of the City’s waste streams benefits all City residents, businesses, and visitors by helping to improve environmental quality, stabilize rates, and leverage previous investments in infrastructure.
2. **Equity** – Optimizing infrastructure at the RWQCP to respond to regulatory demands, realize efficiencies, address climate change, and advance sustainability initiatives benefits all city residents and businesses.
3. **Fiscal Responsibility** – Maximizing the benefit of City infrastructure supports Public Works’ efforts to minimize inefficiencies, maximize reliability, and stabilize rates.
4. **Innovation** – Public Works’ Wastewater Division is focused on implementing the newest technologies to maximize sustainability efforts and lead on resource recovery.
5. **Sustainability & Resiliency** – The City’s Regional Water Quality Control Plant has a

wealth of opportunity to be a regional leader in leveraging and expanding its existing infrastructure to meet the needs of the present and positioning the City of Riverside to be at the forefront of resource recovery and beneficial reuse efforts nationally.

FISCAL IMPACT:

There is no fiscal impact associated with this report.

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availability of funds: Edward Enriquez, Interim Assistant City Manager/Chief Financial Officer/City Treasurer
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Attachments:

1. Public Works Renewable Resources Management Plan
2. Presentation