



# Memorandum

**TO:** TRANSPORTATION AND  
ENVIRONMENT COMMITTEE

**FROM:** Kerrie Romanow  
Matt Cano

**SUBJECT:** SEE BELOW

**DATE:** March 17, 2021

Approved

Date

3/19/21

## INFORMATION

**SUBJECT: SAN JOSÉ-SANTA CLARA REGIONAL WASTEWATER FACILITY  
CAPITAL IMPROVEMENT PROGRAM SEMIANNUAL STATUS  
REPORT**

## RECOMMENDATION

Accept the semiannual status report on the San José-Santa Clara Regional Wastewater facility Capital Improvement Program for the period of July 2020 through December 2020.

## OUTCOME

The purpose of this semiannual status report is to provide an update on the implementation of the Capital Improvement Program (CIP) at the San José-Santa Clara Regional Wastewater Facility<sup>1</sup> (RWF) by highlighting key accomplishments during the first half of fiscal year 2020-2021 to the Transportation and Environment Committee (T&E), the Treatment Plant Advisory Committee (TPAC), and City Council (Council).

## BACKGROUND

The San José and Santa Clara City Councils adopted the Plant Master Plan (PMP) in November 2013 and December 2013, respectively. The PMP identified more than 100 capital improvement projects totaling over \$2.1 billion to be implemented at the RWF over the next 30 years. A validation process was completed in early 2014 to update and prioritize the recommended PMP

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<sup>1</sup> The legal, official name of the facility remains San José/Santa Clara Water Pollution Control Plant, but beginning in early 2013, the facility was approved to use a new common name, the San José-Santa Clara Regional Wastewater Facility.

projects and additional gap projects into 33 projects to be initiated over 10 years. Beginning in fiscal year 2014-2015, the validation process was used to inform the five-year CIP and ten-year funding strategy. The 2021-2025 adopted CIP includes approximately \$1.2 billion in funding, of which approximately \$760 million is for construction. To provide visibility and accountability for this significant CIP effort, staff began providing formal semiannual status reports to T&E, TPAC, and Council in spring 2013.

The first semiannual status report was published in April 2013 and focused on progress and activities from July 2012 through December 2012. This report is the seventeenth in the report series and highlights key program and project accomplishments from July 2020 through December 2020. This report also compliments monthly CIP status reports, which staff began issuing in April 2014 to provide more frequent and time-relevant updates. Through December 2020, 81 monthly reports had been issued. Copies of the monthly reports are available at: <https://www.sanjoseca.gov/your-government/departments-offices/environmental-services/water-utilities/regional-wastewater-facility/capital-improvement-program/cip-document-library/>

## **ANALYSIS**

During this reporting period, dedicated staff and contractors continued to make progress on critical CIP projects, even as the COVID-19 pandemic continued to significantly impact the City, our state, and the rest of the nation.

The City continued to screen all on-site personnel at each RWF entrance, followed by screening questions at individual work sites. Workers have become accustomed to wearing masks, maintaining physical distance, and frequently washing their hands. All CIP staff, except for construction management field staff, continued remote working.

Environmental Services and Public Works staff continue to work with the City Attorney's Office to address pandemic-related impacts to construction schedules and costs to ensure a consistent approach to resolving COVID-19 related claims across the City.

Significant progress was made in key program areas from July 2020 through December 2020.

### **A. Biosolids Disposition Market Assessment and Procurement Strategy**

In September, staff began developing the documents needed to procure short-term contracts for off-site beneficial use of the RWF's dewatered biosolids. In October, staff began the environmental review process for the short-term contracts. These contracts will provide the City with the flexibility required to implement the longer-term biosolids management strategy. In November, staff began further refining the longer-term options—the development of an onsite fertilizer partnership facility and increased land application on local natural and working lands. Staff will seek approval of the longer-

term biosolids management strategy in mid-2021 and will seek approval to award the short-term contracts in late 2021.

***B. Construction Management Strategy***

During this reporting period, the CIP had ten projects under construction, which was a significant increase in field activity throughout the RWF compared to a year prior. Staff anticipates this level of construction to continue over the next few years. Staff continued implementing the recommendations from the construction management (CM) readiness assessment that had been completed in fall 2019. In September, Council approved four master consultant agreements to supplement existing City construction management and inspection resources. In November, Council approved two agreements to provide construction management scheduling and cost control services. During the first half of 2021, staff will use these new agreements to meet CM needs, including project-level construction management services; testing, start-up, and commissioning support; and health, safety, and security assistance.

***C. Programmatic Studies***

During this period, staff made progress on two programmatic studies that began in early 2020 and are anticipated to be completed in mid-2021.

1. The Process Optimization Study will identify and evaluate options for optimizing wastewater treatment processes while accounting for future demands and regulatory changes. Options will be evaluated based on a number of criteria including performance, ease of operation, and life cycle costs (including capital and O&M costs). The study will include an implementation strategy that considers the logistics of incorporating recommendations into current or planned CIP projects.
2. The Energy Management Study will update the Energy Management Strategic Plan (EMSP) that was completed in 2012. Since then, a number of conditions have changed that impact the generation and consumption of energy at the RWF, including the availability and cost of landfill gas, the discontinued operation of a fuel cell, future electricity demand, regulations, the conversion of gas-engine driven blowers to electric motor driven blowers, and the rate of digester gas production. The study will update the EMSP to address these changes.

On the project delivery front, there were 19 active projects at various stages of the project delivery model during the reporting period.

***A. Feasibility/Development Highlights***

Two projects were in the feasibility/development phase at the end of the first half of fiscal year 2020-2021. Key activities completed during this period include the following:

- **Flood Protection:** The project team completed negotiations with the design consultant for alternative analysis and conceptual design efforts to protect the RWF from riverine flooding. Alternatives to be evaluated include use of existing berms and temporary flood barriers for facility-wide protection; construction of a new berm for facility-wide protection; and improvements to individual process areas.

*B. Design Highlights*

Seven projects were in the design or bid/award phase at the end of the first half of fiscal year 2020-2021. Key activities completed during this period include the following:

- **Digested Sludge Dewatering Facility:** In July, the project team conducted a value engineering analysis. CIP and Operations & Maintenance (O&M) staff collaborated to make key decisions on centrate discharge, building layout, and power feed options. The project team and design-builder defined performance requirements for critical equipment, wastewater cake, and polymer dosing. In December, the design-builder submitted the 30 percent design documents.
- **Facility-wide Water Systems Improvements:** In July, the City advertised a contract for utility trenching to locate underground utility conflicts during design to reduce the risk of unforeseen site conditions during construction. Eight bids were received. In October, Council awarded the contract to Westland Contractors, Inc. Construction is anticipated to start January 2021. Concurrent to these efforts, the design consultant conducted a geotechnical investigation of the proposed water storage tank site and tested the local fire hydrant system.
- **Fire Life Safety Upgrades:** In December, the design consultant submitted the 90 percent design documents.
- **Storm Drain System Improvements:** In December, the design consultant submitted the 50 percent design documents for City review.
- **Yard Piping Improvements – Phase 1:** In November, the design consultant completed 100 percent design. The City advertised the construction contract in December and bids will be opened in January.

*C. Construction Highlights*

Ten projects, totaling approximately \$433 million, were in construction during the first half of fiscal year 2020-2021 (see Attachment A). Two of the ten projects are being delivered using the progressive design-build method, with the remaining eight projects being delivered using the design-bid-build approach. Key activities completed during this period include the following:

- **96-inch and 87-inch Settled Sewage Pipes Rehabilitation:** Construction reached Beneficial Use in October 2020.
- **Advanced Facility Control & Meter Replacement – Phase 1:** The contractor completed demolition work in the Nitrification Battery B tunnel and tanks; installed mounting posts in the Nitrification Battery B tanks for meters and probes; and completed pipe lining repair work for several tanks. The contractor completed operational testing of six aeration tanks and nine clarifiers in the Secondary Battery B side. Through December 2020, construction was approximately 79 percent complete.
- **Advanced Facility Control & Meter Replacement – Phase 2:** In July, the City issued the notice to proceed (NTP) to the contractor. During this period, staff reviewed and approved submittals for long-lead equipment including butterfly valves, plug valves, and process control instrumentation.
- **Blower Improvements:** The contractor installed and tested Building 40 medium-voltage cables and completed modifications to the distributed control system (DCS)

- network panels. The contractor completed pre-operational testing and functional testing on the first of three blowers in Building 40 and calibrated the associated flow meter. Additionally, the contractor completed the 28-day operational test for one blower in Building 40 and began demolishing blower discharge piping in the Tertiary Blower Building. Through December 2020, construction was approximately 59 percent complete.
- **Cogeneration Facility:** During this period, the design-builder successfully tested the hot water boilers on natural and compressed digester gas. The City and design-builder agreed to test the engine generators remotely to minimize delays caused by COVID-19 travel restrictions that prevented needed experts from travelling internationally. The design-builder successfully ran synchronization tests to the electrical grid for all four engines at full load. The project team also completed a parallel test between the cogeneration engines and the emergency generators. The design-builder completed all acceptance testing. The project reached Beneficial Use on December 17.
  - **Digester and Thickener Facilities Upgrade:** The contractor completed inspection and pre-operational testing of the dissolved air flotation thickener (DAFT) tanks, completed functional and operational testing of the new flares, and made preparations for functional testing of the DAFT tanks. The contractor completed vibration and performance testing on the new pressure flow pump in the DAFT tank gallery. DAFT tank commissioning is anticipated in January 2021. The contractor installed digester gas compressors, energized the motor control centers in the sludge screening building, and transferred primary process power from the old switchgear to the new east electrical building. The contractor also installed new piping and pipe supports on the elevated pipe rack and in the tunnels. Through December, construction was approximately 94 percent complete.
  - **Filter Rehabilitation:** In October, Council awarded the construction contract to Walsh Construction Company. In December, staff issued the NTP to the contractor. Beneficial Use is expected mid-2024.
  - **Headworks:** The design-builder began the mass excavation of the new headworks site, relocated existing utilities, and installed temporary power and fiber optic cables. The design-builder constructed several portions of the influent screening structure and grit basins, installed shoring and began excavation for the deep raw sewage pump station, and began installing new electrical duct banks that will provide dual power feeds from existing switchgears to the new headworks. The design-builder began shoring and excavation for a 96-inch pipe that will convey flow from the new Headworks 3 to existing Headworks 2. During this period, a majority of the 96-inch steel pipe sections were delivered to the RWF. In October, the design-builder completed the 100 percent design documents. Through December, construction was approximately 14 percent complete.
  - **Nitrification Clarifiers Rehabilitation - Phase 1:** The contractor completed demolition work in the RAS gallery and Nitrification Battery B and began electrical duct bank trenching, drain valve replacement, and equipment installation in those areas. The contractor also began sandblast work on corroded fittings and parts, as

well as concrete crack repair work in the clarifiers. Through December, construction was approximately 9 percent complete.

- **Switchgear M4 Replacement and G3 & G3A Removal:** The City review and approved the contractor's submittals for the M4 switchgear, switchgear enclosure, and battery enclosure. The contractor placed the fabrication order to the manufacturer for the M4 switchgear, which is anticipated to be delivered to the RWF in May 2021.

Staff, contractors, and consultants continued to work safely and there were no reportable incidents to the State's Division of Occupational Safety and Health (Cal/OSHA) during the first half of fiscal year 2020-2021.

Staff expects to achieve the following during the second half of fiscal year 2020-2021:

1. Obtain Council approval to award the construction contract for the Yard Piping Improvements - Phase 1 project.
2. Continue design on five projects: Digested Sludge Dewatering Facility, Facility-wide Water Systems Improvements, HVAC Improvements, Outfall Channel and Instrumentation Improvements, and Storm Drain Systems Improvements.
3. Advertise the Fire Life Safety Upgrades and Outfall Channel and Instrumentation Improvements projects for bid.
4. Advertise a Request for Qualifications for general engineering services master consultant agreements.
5. Initiate the Yard Piping Improvements - Phase 2 and Construction-Enabling Improvements - Phase 2 projects.
6. Hold a virtual vendor open house for consultants and contractors to increase awareness of upcoming professional services and construction opportunities
7. Continue recruitment activities to fill remaining RWF CIP vacancies

## **EVALUATION AND FOLLOW-UP**

No follow-up action is required at this time. Staff will continue to provide regular updates to inform T&E, TPAC, and Council of significant changes or issues (particularly as related to rate impacts) as implementation of the CIP progresses. In addition to semiannual presentations, staff will continue to share monthly progress reports with TPAC.

## **COORDINATION**

This report has been coordinated with the Office of the City Attorney and City Manager's Budget Office.

TRANSPORTATION AND ENVIRONMENT COMMITTEE

March 16, 2021

**Subject: Regional Wastewater Facility CIP Semiannual Status Report, July 2020 – December 2020**

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**CEQA**

Not a Project, File No. PP17-009, Staff Reports, Assessments, Annual Reports, and Information Memos that involve no approvals of any City action.

/s/

KERRIE ROMANOW

Director, Environmental Services

/s/

MATT CANO

Director, Public Works

For questions, please contact Napp Fukuda, Assistant Director, Environmental Services Department at (408) 973-5353.

Attachment A – Projects in Construction: June 2020 – December 2020

**Attachment A – Projects in Construction: July 2020 – December 2020**

#	Project Name	Contractor	Amount Awarded	Date Awarded	Estimated Beneficial Use
1.	9002 – 96-inch and 87-inch Settled Sewage Pipe Rehabilitation	Michels Pipeline Construction	Base Contract: \$4,796,571 Contingency: \$719,486	11/19/19	October 30, 2020
2.	7757 – Advanced Facility Control Meter Replacement - Phase 1	C. Overaa & Co.	Base Contract: \$5,790,000 Contingency: \$1,158,000	5/22/18	Summer 2021
3.	8868 – Advanced Facility Control Meter Replacement - Phase 2	Kiewit Infrastructure West Co.	Base Contract: \$7,046,100 Contingency: \$1,409,220	5/17/20	Spring 2023
4.	8073 – Blower Improvements	Monterey Mechanical Company	Base Contract: \$29,498,000 Contingency: \$4,425,000	10/30/18	Winter 2022
5.	7418 – Cogeneration Facility	CH2M HILL Engineers, Inc.	Base Contract: \$89,071,932 Contingency: \$2,100,068	4/26/16 <sup>1</sup>	December 17, 2020
6.	7382 – Digester and Thickener Facilities Upgrade	Walsh Construction Company II, LLC	Base Contract: \$107,925,000 Contingency: \$53,490,625	5/24/16	Fall 2021
7.	7448 -Filter Rehabilitation	Walsh Construction Company II, LLC	Base Contract: \$33,290,577 Contingency: \$6,658,000	10/20/20	Summer 2024
8.	7701 – Headworks	CH2M HILL Engineers, Inc.	Base Contract: \$126,874,142 Contingency: \$12,688,000	02/25/20	Summer 2023
9.	7731 – Nitrification Clarifiers Rehabilitation – Phase 1	C. Overaa & Co.	Base Contract: \$26,184,000 Contingency: \$5,237,000	10/22/19	Winter 2022
10.	7759 – Switchgear M4 Replacement and G3 & G3A Removal	Blocka Construction, Inc.	Base Contract: \$5,519,000 Contingency: \$827,850	12/17/19	Winter 2022

1. On April 26, 2016, Council approved the design-build contract and authorized the City Manager to negotiate and execute the definitive contract amendment setting the guaranteed maximum price (GMP). On May 25, 2018, the City manager approved the amended contract.