SAN JOSÉ/SANTA CLARA TREATMENT PLANT ADVISORY COMMITTEE

SAM LICCARDO, CHAIR
PAT KOLSTAD, VICE CHAIR
LAN DIEP, MEMBER
DAVE SYKES, MEMBER
DEV DAVIS, MEMBER
MARSHA GRILLI, MEMBER
DEBI DAVIS, MEMBER
STEVEN LEONARDIS, MEMBER
JOHN GATTO, MEMBER

AGENDA/TPAC

4:00 p.m. **October 12, 2017** **Room 1734**

1. ROLL CALL

2. APPROVAL OF MINUTES

A. September 14, 2017

3. UNFINISHED BUSINESS/REQUEST FOR DEFERRALS

4. DIRECTOR'S REPORT

A. Director's Report (verbal)
- Monthly Progress Report

5. AGREEMENTS/ACTION ITEMS

A. Actions Related to the Establishment of an Interim Financing Program to Finance Capital Improvements at the San Jose – Santa Clara Regional Wastewater Facility

Staff Recommendation: It is recommended that the City Council:
(a) Adopt a resolution providing for the allocation of Wastewater System Revenues, the pledge of Wastewater Net Systems Revenues, and establishing covenants to secure the payment of obligations payable from Wastewater Net System Revenue and repealing prior inconsistent resolutions.
(b) Adopt a resolution approving the issuance by the City of San José Financing Authority of its Subordinate Wastewater Revenue Notes from time to time in an aggregate principal amount not to exceed $300,000,000 outstanding at any one time for the purpose of financing Wastewater System and Treatment Plant Projects for the City of San José and/or refunding Prior Obligations issued or incurred for such purpose, approving and authorizing the execution and delivery of a Credit Agreement and a Fee Letter Agreement with Wells Fargo Bank, National Association, and a Subordinate Installment Purchase Contract, and authorizing other related actions in connection therewith.

The proposed recommendation was adopted by the City Council and Financing Authority Board on October 3, 2017.

B. San Jose – Santa Clara Regional Wastewater Facility Capital Improvement Program Semiannual Status Report

Staff Recommendation: Accept the semiannual status report on the San José - Santa Clara Regional Wastewater Facility Capital Improvement Program for the period of January 2017 through June 2017.

This item was approved by the Transportation and Environment Committee on October 2, 2017 and is scheduled for consideration by the City Council on October 24, 2017.

C. Construction Impacts to San José – Santa Clara Regional Wastewater Facility

Staff Recommendation: Accept this report about the construction impacts to Operation and Maintenance at the San José – Santa Clara Regional Wastewater Facility.

This item was approved by the Transportation and Environment Committee on October 2, 2017 and is scheduled for consideration by the City Council on October 24, 2017.

D. Wastewater Flow Pattern Changes at the San Jose – Santa Clara Regional Wastewater Facility

Staff Recommendation: Accept this report about wastewater influent and effluent pattern changes at the San José – Santa Clara Regional Wastewater Facility.

This item was approved by the Transportation and Environment Committee on October 2, 2017 and is scheduled for consideration by the City Council on October 24, 2017.

E. Shoreline Levee Update

Staff Recommendation: Accept this status report on the construction of the Shoreline Levee and progress on discussions with the Santa Clara Valley Water District on the transfer of Pond A18.

This item was approved by the Transportation and Environment Committee on October 2, 2017 and is scheduled for consideration by the City Council on October 24, 2017.

F. Wildlife Habitat at the San Jose – Santa Clara Regional Wastewater Facility

Staff Recommendation: Accept this report highlighting established wildlife habitat at the San José – Santa Clara Regional Wastewater Facility, and ongoing habitat management activities for the Western Burrowing Owl.

This item was approved by the Transportation and Environment Committee on October 2, 2017 and is scheduled for consideration by the City Council on October 24, 2017.

6. OTHER BUSINESS/CORRESPONDENCE

7. STATUS OF ITEMS PREVIOUSLY RECOMMENDED FOR APPROVAL BY TPAC

A. Amendment to the Master Consultant Agreement with Stantec Consulting Services Inc. (formerly MWH Americas, Inc.) for Program Management Services for the San Jose – Santa Clara Regional Wastewater Facility Capital Improvement Program

Staff Recommendation: Approve an Amended and Restated Master Consultant Agreement with Stantec Consulting Services Inc. (formerly MWH Americas, Inc.) for program management services for the San José – Santa Clara Regional Wastewater Facility Capital Improvement Program, increasing the not to exceed Agreement amount from $39,000,000 to a revised not to exceed agreement amount of $78,000,000; and extending the term of the agreement from September 30, 2018 to June 30, 2023.

This item was re-scheduled to the October 17, 2017 City Council Meeting.

B. Approval of Citywide Insurance Renewals

Staff Recommendation: Adopt a resolution authorizing the Director of Finance to:

(c) Select and purchase City property and liability insurance policies for the period October 1, 2017, to October 1, 2018, at a total cost not to exceed $1,850,000, including a 12.6% contingency for additional property or assets scheduled with the following insurance carriers:

(1) American Home Assurance Company for Property & Casualty Insurance, including Boiler & Machinery.

(2) Old Republic Aerospace, Phoenix Aviation Managers, for Airport Owners and Operations Liability including War Risks & Extended Perils Coverage (Primary and Excess) and Police Aircraft Hull & Liability including War Risks & Extended Perils.

(3) The Travelers Indemnity Company of CT for Automobile Liability, or other insurance carriers that the City is currently in negotiations with, (Airport fleet vehicles including Shuttle Buses, Regional Wastewater Facility fleet vehicles, and Airport Shuttle Bus physical damage).

(4) QBE Specialty Insurance Company for Secondary Employment Law Enforcement Professional Liability.

(5) National Union Fire Insurance Company of Pittsburg, PA for Life/Accidental Death and Dismemberment Policy for the Police Air Support Unit.

(6) Berkley Regional Insurance Company for Government Fidelity/Crime Coverage.

(7) Hudson Insurance Company, for Fiduciary Liability Coverage for the VERBA Health Savings Trust.

The proposed recommendation was adopted by the City Council on September 19, 2017.

C. Purchase of California Carbon Allowances

Recommendation: Approve the Agreement between the City of San José and Vitol, Inc., which is approved by the California Air Resources Board for the purchase of California Carbon Allowances for the San Jose – Santa Clara Regional Wastewater Facility, as part of the California Cap-and-Trade Program, for an amount of $303,437.60.

The proposed recommendation was approved by the City Council on September 26, 2017.

D. Audit of Environmental Services Department Consulting Services

Staff Recommendation: Accept the audit report on Environmental Services Department Consulting Services.

The proposed recommendation was approved by the City Council on October 3, 2017. City staff will provide a six month status update to the Transportation and Environment Committee and City Council.

8. REPORTS

A. Open Purchase Orders Greater Than $100,000 (including Service Orders)

The attached monthly Procurement and Contract Activity Report summarizes the purchase and contracting of goods with an estimated value between $100,000 and $1.08 million and of services between $100,000 and $270,000.

9. MISCELLANEOUS

A. The next monthly TPAC Meeting is on **November 9, 2017, at 4:00 p.m**., City Hall, Room 1734.

10. OPEN FORUM

11. ADJOURNMENT

NOTE: If you have any changes or questions, please contact Melrose Cacal, Environmental Services (408) 975-2547.

To request an accommodation or alternative format for City-sponsored meetings, events or printed materials, please contact Melrose Cacal (408) 975-2547 or (408) 294-9337 (TTY) as soon as possible, but at least three business days before the meeting/event.

Availability of Public Records. All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at San Jose City Hall, 200 East Santa Clara Street, 10th Floor, Environmental Services at the same time that the public records are distributed or made available to the legislative body.

MINUTES OF THE
SAN JOSÉ/SANTA CLARA
TREATMENT PLANT ADVISORY COMMITTEE
San José City Hall, T-1734
Thursday, September 14, 2017 at 4:00 p.m.

1. ROLL CALL

Minutes of the Treatment Plant Advisory Committee convened this date at 4:04 p.m. Roll call was taken with the following members in attendance:

Committee Members: Dev Davis, Lan Diep, John Gatto, Marsha Grilli, Steven Leonardis, Dave Sykes, Kathy Watanabe (alternate), Sam Liccardo

Absent: Committee Member Debi Davis

2. APPROVAL OF MINUTES

A. June 8, 2017
Item 2.A. was approved to note and file.
Ayes – 8 (Davis, Diep, Gatto, Grilli, Kolstad, Leonardis, Sykes, Watanabe)
Nayes – 0
Absent – 1 (Liccardo)

3. UNFINISHED BUSINESS/REQUEST FOR DEFERRALS

4. DIRECTOR'S REPORT

A. Director's Report (verbal)

- Monthly Progress Report

Assistant Director Ashwini Kantak and Deputy Director Julia Nguyen presented an update on the Emergency Diesel Generators and the Digester and Thickener Facilities Upgrade.

Chair Liccardo asked what the bonding capacity is for accelerating projects and if new technology is being installed to detect issues before they're discovered by staff.

Assistant Director Ashwini Kantak mentioned that the Yard Piping Project was accounted for in the adopted budget and that staff will evaluate how they can be flexible with this project if there are unforeseen financial limitations. In addition, the Advanced Meter Replacement will help staff look at the flow of water, but not the condition of the pipe. Deputy Directors Julia Nguyen and Amit Mutsuddy mentioned that the consultants take into account what protectants and raw materials should be used to best maintain the Regional Wastewater Facility (RWF). The RWF was built in the 1950s and 1960s, and the pipes currently don't have corrosion protection compared to modern technology. Staff is currently coating them with plastics and proxies as the

technology for detecting acid build up in the pipes has not been developed yet. Ms. Kantak added that staff is looking at ways to isolate sections of the RWF so that regular maintenance and condition assessments can be done more easily in the future, Committee Member Gatto requested for a status update on the Biosolids Disposal Plan and emphasized that a complete plan should be developed as soon as possible. Ms. Nguyen replied that a team will be looking at disposal sites and contract options in the upcoming budget cycle. Director Kerrie Romanow reassured the Committee that they will develop a couple options for TPAC to consider.

5. AGREEMENTS/ACTION ITEMS

A. Amendment to the Master Consultant Agreement with Stantec Consulting Services Inc. (formerly MWH Americas, Inc.) for Program Management Services for the San Jose – Santa Clara Regional Wastewater Facility Capital Improvement Program

Staff Recommendation: Approve an Amended and Restated Master Consultant Agreement with Stantec Consulting Services Inc. (formerly MWH Americas, Inc.) for program management services for the San José – Santa Clara Regional Wastewater Facility Capital Improvement Program, increasing the not to exceed agreement amount From $39,000,000 to a revised not to exceed agreement amount of $78,000,000; and extending the term of the agreement from September 30, 2018 to June 30, 2023.

This item is scheduled for consideration by the City Council on September 26, 2017.

Assistant Director Ashwini Kantak and Deputy Director Julia Nguyen presented.

Ms. Nguyen explained the relationship between the Stantec agreement and Auditor's Report for Committee Member Diep, and noted the Auditor's proposed recommendations were incorporated into the Stantec amendment. Committee Member Grilli followed up about when the recommendations will be implemented. Ms. Kantak mentioned six of the ten recommendations were addressed through the amendment. Once the amendment is approved by Council, they will be implemented. The remaining item is separate from the amendment and will be resolved by the end of September.

Committee Member Watanabe asked about the frequency of audits for consulting agreements. Auditor Sharon Erickson and Director Kerrie Romanow indicated that there is not a routine schedule for these types of audits.

Committee Member Gatto inquired who decides when to utilize staff or consultants for projects. Ms. Romanow responded that she works directly with the City Manager's Office to evaluate recommendations.

Chair Liccardo expressed concerns about the vacancy rate. He asked if (1) there is time to work with the bargaining units to start increasing wage levels to better

recruit and select candidates for wastewater positions, and (2) if there is a way to unbind constraints so staff is given the flexibility they need to hire. Ms. Romanow clarified that some of the challenges are related to compensation, and how classifications are Citywide. It would require five to seven deputy director level staff to manage staff which would cause organizational challenges. The Environmental Services Department will work with Human Resources and the City Manager's Office if adjustments can be made. Assistant City Manager Dave Sykes added that the issue is also due to compaction with the leadership positions across the City. These positions report up to Deputy Director, Assistant Director, and Director. Ultimately, they will need to look at how these positions relate to other City departments.

Committee Member Gatto inquired if there is flexibility to modify a contract if the economy improves. Ms. Kantak replied that this particular agreement is a Master Agreement with a not to exceed amount. Staff authorizes the work for each year through service orders.

On a motion made by Vice Chair Kolstad and a second by Committee Member Diep, TPAC recommended approval of staff's recommendation for Item 5.A.

Ayes – 6 (Davis, Diep, Kolstad, Liccardo, Sykes, Watanabe)
Nayes – 2 (Grilli, Leonardis)
Absent – 0
Abstain – 1 (Gatto)

B. Approval of Citywide Insurance Renewals

Staff Recommendation: Adopt a Resolution authorizing the Director of Finance to:

(a) Select and purchase City property and liability insurance policies for the period October 1, 2017 to October 1, 2018, at a total cost not to exceed $1,850,000, including a 12.6% contingency for additional property or assets scheduled, with the following insurance carriers:
   (1) American Home Assurance Company for Property & Casualty Insurance, including Boiler & Machinery.
   (2) Old Republic Aerospace, Phoenix Aviation Managers, for Airport Owners and Operators Liability including War Risks & Extended Perils Coverage (Primary and Excess) and Police Aircraft Hull & Liability including War Risks & Extended Perils.
   (3) The Travelers Indemnity Company of CT for Automobile Liability, or other insurance carriers that the City is currently in negotiations with, (Airport fleet vehicles including Shuttle Buses, Regional Wastewater Facility fleet vehicles, and Airport Shuttle Bus physical change).
   (4) QBE Specialty Insurance Company for Secondary Employment Law Enforcement Professional Liability.
   (5) National Union Fire Insurance Company of Pittsburg, PA for Life/Accidental Death and Dismemberment Policy for the Police Air Support Unit.

(6) Berkley Regional Insurance Company for Government Fidelity/Crime Coverage.
(7) Hudson Insurance Company, for Fiduciary Liability Coverage for the VERBA Health Savings Trust.

This item is scheduled for consideration by the City Council on September 19, 2017.

On a motion made by Committee Member Leonardis and a second by Committee Member Davis, TPAC recommended approval of staff's recommendation for Item 5.B.

Ayes – 9 (Davis, Diep, Gatto, Grilli, Kolstad, Leonardis, Liccardo, Sykes, Watanabe)
Nayes – 0
Absent – 0

C. Purchase of California Carbon Allowances

Staff Recommendation: Approve the Agreement between the City of San José and Vitol, Inc., which is approved by the California Air Resources Board for the purchase of California Carbon Allowances for the San José – Santa Clara Regional Wastewater Facility, as part of the California Cap-and-Trade Program, for an amount of $303,437.60.

This item is scheduled for consideration by the City Council on September 26, 2017.

Assistant Director Ashwini Kantak responded to questions from Committee Member Watanabe and Chair Liccardo about the duration of the City of San José's participation in the Cap-and-Trade Program and reason for phase out.

Ms. Kantak clarified had the RWF had entered into the Cap-and-Trade Program in 2013, and must stay in the program for a certain number of years. 2018 will be the last year in the program if we continue to stay under the emissions threshold. City staff will forward an overall energy strategy once the new Cogeneration Facility is online.

On a motion made by Committee Member Gatto and a second by Committee Member Grilli, TPAC recommended approval of staff's recommendation for Item 5.C.
Ayes – 9 (Davis, Diep, Gatto, Grilli, Kolstad, Leonardis, Liccardo, Sykes, Watanabe)
Nayes – 0
Absent – 0

D. Actions Related to the May 18, 20917 Hearing on the Tributary Agencies' Claims of Breach of Agreement and Inequities

Staff Recommendation: Adopt a Resolution setting forth the San José/Santa Clara Treatment Plant Advisory Committee's (TPAC) report, findings, and recommendations Following the May 18, 2017 hearing before TPAC on the Claims of Breach of Agreement and Inequities Filed on September 7, 2016 by West Valley Sanitation District, Burbank Sanitary District No. 2-3, and the City of Milpitas (Tributary Agencies).

Senior Deputy Attorney Jennifer Pousho noted Senior Deputy Attorney Rosa Tsongtataarii's presentation was missing from the list of exhibits. TPAC will receive an amended packet from TPAC Liaison Melrose Cacal.

On a motion made by Committee Member Kolstad and a second by Committee Member Diep, TPAC recommended approval of staff's recommendation for Item 5.D.

Ayes – 8 (Davis, Diep, Gatto, Grilli, Kolstad, Leonardis, Liccardo, Sykes, Watanabe)
Nayes – 0
Absent – 0
Abstain – 1 (Gatto)

E. Audit of Environmental Services Department Consulting Services

Staff Recommendation: Accept the audit report on Environmental Services Department Consulting Services.

This item was considered at the Transportation and Environment Committee on September 11, 2017 and is scheduled for consideration by the City Council on September 26, 2017.

Auditor Sharon Erickson presented.

Director Kerrie Romanow mentioned that the Environmental Services Department (ESD) included the Auditor's report recommendations into the Stantec amendment and the target dates for staff to address most of the recommendations were September 2017.

Committee Member Watanabe asked if an update on the Auditor's recommendations can be provided to TPAC on a quarterly basis to ensure transparency. Ms. Erickson responded that staff will be following up on the recommendations once every six months, and that an update will be provided to TPAC.

Committee Member Gatto inquired as to why the audit did not cover a broader evaluation of total costs. Ms. Erickson noted the Auditor's Office was asked to audit ESD's consulting agreements at a request of a Councilmember. The Stantec Agreement amendment is also being considered by TPAC on September 14, 2017. An evaluation of the cost of the agreement is not in their scope of review at this time.

On a motion made by Vice Chair Kolstad and a second by Committee Member Davis, TPAC recommended approval of staff's recommendation for Item 5.D.

Ayes – 9 (Davis, Diep, Gatto, Grilli, Kolstad, Leonardis, Liccardo, Sykes, Watanabe)
Nayes – 0
Absent – 0

F. Election of Pro Tem Chair for October 12, 2017 TPAC Meeting

Chair Liccardo, Vice Chair Kolstad, and Committee Member Lan Diep noted they will be absent at the October 12, 2017 meeting. Committee Members will be notified by the TPAC Liaison prior to the October 12, 2017 if the meeting needs to be re-scheduled.

On a motion made by Committee Member Kolstad and a second by Committee Member Watanabe, TPAC elected Committee Member Debi Davis to serve as Pro Tem Chair for the October 12, 2017 meeting.

Ayes – 9 (Davis, Diep, Gatto, Grilli, Kolstad, Leonardis, Liccardo, Sykes, Watanabe)
Nayes – 0
Absent – 0

6. OTHER BUSINESS/CORRESPONDENCE

A. Information Memorandum: Update on Clean Water State Revolving Fund Loan for Regional Wastewater Facility Project dated August 2, 2017

B. Information Memo: Update on Commercial Fats, Oils, Grease (FOG) Inspection and Plan Check Services dated July 24, 2017

C. Environmental Services Department Staffing Update and Building the Future Workforce dated May 23, 2017

All items under Section 6 were approved to note and file.

Ayes – 9 (Davis, Diep, Gatto, Grilli, Kolstad, Leonardis, Liccardo, Sykes, Watanabe)
Nayes – 0
Absent – 0

7. STATUS OF ITEMS PREVIOUSLY RECOMMENDED FOR APPROVAL BY TPAC

A. Report on Procurement of Insurance Products for an Owner Controlled Insurance Program for the San Jose – Santa Clara Regional Wastewater Facility

Staff Recommendation: Adopt a resolution authorizing the Director of Finance to:

(a) Purchase insurance policies for the San Jose – Santa Clara Regional Wastewater Facility Capital Improvement Program with a total cost not to exceed $10,810,576 including insurance premiums of $8,153,181 and a cash collateral fund of $2,657,395, to be paid in five annual installments and subject to the appropriation of funds, as follows:
   (1) Old Republic General Insurance Corporation: Commercial General Liability Insurance and Workers' Compensation Insurance with a Program Agreement Endorsement stipulating terms of cash collateral fund management
   (2) Allied World Assurance Company: Commercial Excess Liability Insurance
   (3) Endurance Risk Solutions Assurance Company: Commercial Excess Liability Insurance
   (4) Ironshore Specialty Insurance Company: Commercial Excess Liability Insurance
   (5) American Fire and Casualty Company: Commercial Excess Liability Insurance
   (6) Liberty Mutual Fire Insurance Company: Builder's Risk Insurance with special endorsement for Flood
   (7) Ironshore Specialty Insurance Company: Contractors Pollution Liability Insurance
   (8) Owners Protective Professional Liability Insurance with the insurance carrier to be determined pending the City's completion of the application process.

(b) Adopt the following 2016 – 2017 Appropriation Ordinance Amendments in the San Jose – Santa Clara Treatment Plant Capital Fund:
   (1) Decrease Program Management appropriation to the Environmental Services Department by $2,500,000; and
   (2) Decrease the Program Management appropriation to the Environmental Services Department by $2,500,000; and
   (3) Establish the Owner Controlled Insurance Program appropriation to the Environmental Services Department in the amount of $3,200,000.

This proposed recommendation was approved by the City Council on June 20, 2017.

B. Amendments to the Master Consultant Agreement with Stantec Consulting Services Inc. (formerly MWH Americas, Inc.) for Program Management Services for the San Jose – Santa Clara Regional Wastewater Facility Capital Improvement Program

Staff Recommendation: Approve an Amended and Restated Master Consultant Agreement with Stantec Consulting Services Inc. (formerly MWH Americas, Inc.) for program management services for the San José – Santa Clara Regional Wastewater Facility Capital Improvement Program, increasing the not to exceed agreement amount from $39,000,00 to a revised not to exceed agreement amount of $78,000,000; and extending the term of the agreement from September 30, 2018 to June 30, 2023.

The item was deferred to the September 14, 2017 TPAC meeting and September 26, 2017 City Council meeting.

C. Report on Bids and Award of Contract for 8241 – Paint Shop Spray Booth Replacement Project at the San Jose – Santa Clara Regional Wastewater Facility

Staff Recommendation:

(a) Report on bids and award of a construction contract for 8241- Paint Shop Spray Booth Replacement Project to the low bidder Integra Construction Services, Inc. for the base bid in the amount of $1,040,112 and approval of a construction contingency f 15 percent in the amount of $156, 017.
(b) Adopt the following 2016-2017 Appropriation Ordinance amendments in the San Jose – Santa Clara Treatment Plant Capital Fund:
    (1) Decrease the Lagoons and Drying Beds Retirement appropriation to the Environmental Services Department by $1,400,000; and
    (2) Increase the Plant Infrastructure Improvements appropriation to the Environmental Services Department by $1,400,000.
(c) Adopt the following 2016-2017 Appropriation Ordinance amendments in the San Jose – Santa Clara Treatment Plant Operating Fund:
    (1) Decrease the Non-Personal/Equipment appropriation to the Environmental Services Department by $450,000; and

The funding source for the project was changed from the Plant Infrastructure Improvements appropriation to the San José – Santa Clara Treatment Capital Fund following the June 8, 2017 TPAC meeting (see attached revised memo to the San José City Council). The item was deferred from the June 20, 2017 City Council meeting and approved by the City Council on June 27, 2017.

D. Third Amendment to Legal Services Agreement for Regional Wastewater Facility Capital Improvement Program

Staff Recommendation: Approve a Third Amendment to the legal services agreement with Hawkins, Delafield, & Wood LLP, to extend the term of the agreement through June 30, 2020, revise the scope of service, and increase the maximum amount of compensation by $2,500,000, subject to the appropriation of funds by City Council, to support the San Jose – Santa Clara Regional Wastewater Facility ("RWF") Capital Improvement Program

The proposed recommendation was approved by the City Council on June 13, 2017.

Item 7.A. was approved to note and file.

Ayes – 9 (Davis, Diep, Gatto, Grilli, Kolstad, Leonardis, Liccardo, Sykes, Watanabe)
Nayes – 0
Absent – 0

8. REPORTS

A. Open Purchase Orders Greater Than $100,000 (including Service Orders)

The attached monthly Procurement and Contract Activity Report summarizes the Purchase and contracting of goods with an estimated value between $100,000 and $1.08 million of services between $100,000 and $270,000.

Item 8.A. was approved to note and file.

Ayes – 9 (Davis, Diep, Gatto, Grilli, Kolstad, Leonardis, Liccardo, Sykes, Watanabe)
Nayes – 0
Absent – 0

9. MISCELLANEOUS

A. The next monthly TPAC Meeting is **October 12, 2017** at 4:00 p.m., City Hall, Room 1734.

10. OPEN FORUM

11. ADJOURNMENT

A. The Treatment Plant Advisory Committee adjourned at 4:59 p.m.

Sam Liccardo, Chair
TREATMENT PLANT ADVISORY COMMITTEE

San José-Santa Clara Regional Wastewater Facility

Capital Improvement Program
Monthly Status Report: August 2017

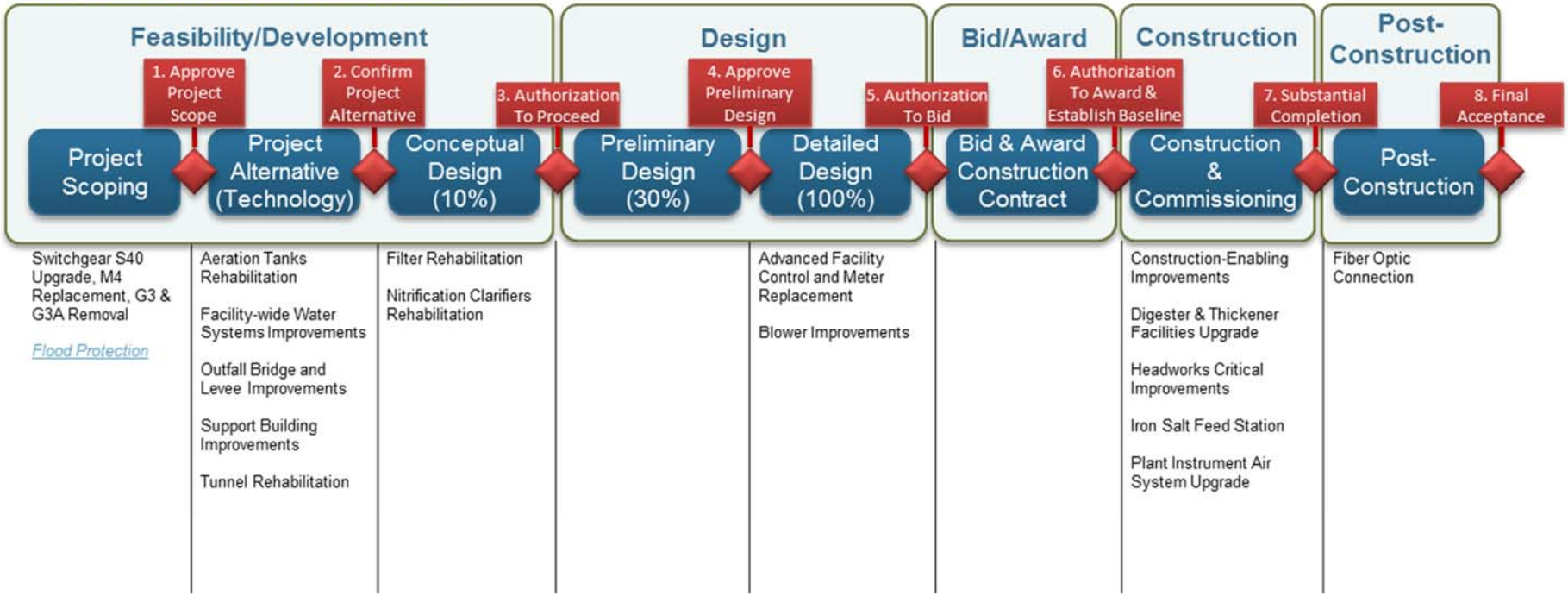
October 5, 2017

This report summarizes the progress and accomplishments of the Capital Improvement Program (CIP) for the San José-Santa Clara Regional Wastewater Facility (RWF) for August 2017.

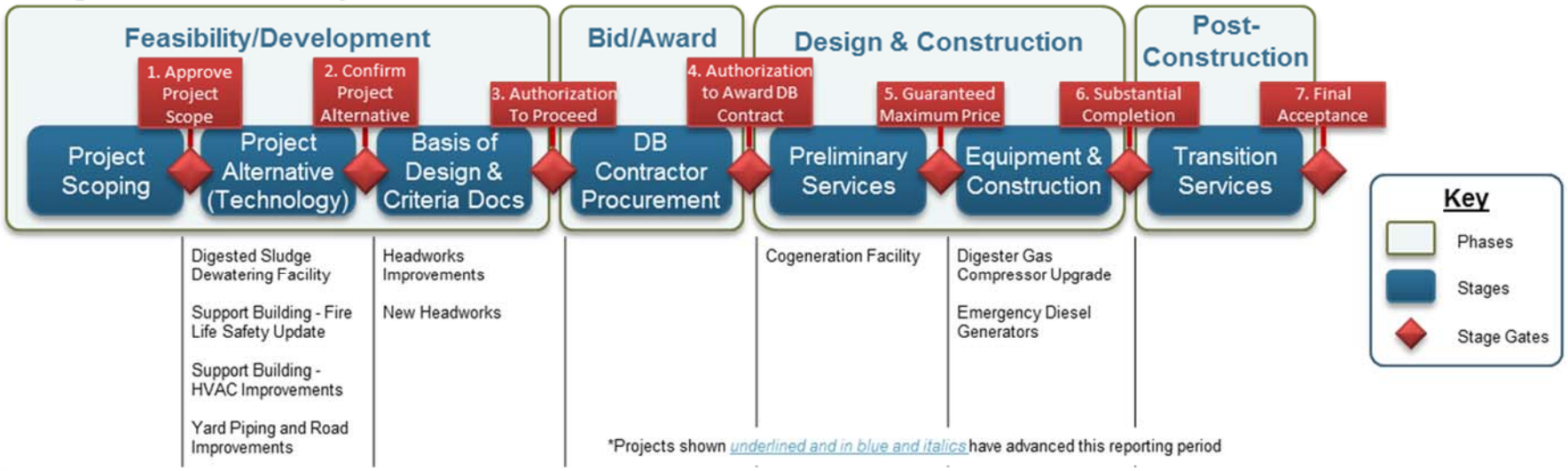
Report Contents

Project Delivery Model

Design-Bid-Build Active Projects



Design-Build Active Projects



*Projects shown underlined and in blue and italics have advanced this reporting period

Program Summary

August 2017

In August, 17 CIP projects continued to progress through the feasibility/development, design, and bid/award stages of the project delivery model (PDM). Alternatives analysis work continued for the Aeration Tanks Rehabilitation, Digested Sludge Dewatering Facility, and Facility-wide Water Systems Improvements projects. Of particular note, the Facility-wide Water Systems Improvements Project completed field testing of the four separate RWF water systems, and the Aeration Tanks Rehabilitation Project completed condition assessment of the aeration tanks and field testing of the primary clarifiers and activated sludge processes. Conceptual design work continued on the Nitrification Clarifiers Rehabilitation Project with additional condition assessment work being carried out on the return-activated sludge (RAS) pipelines. Design also continued on the Advanced Facility Control and Meter Replacement, Blower Improvements, and Cogeneration Facility projects, with the 60 percent design submittal received this month for the Cogeneration Facility Project. The City posted the final ranking for the Yard Piping and Road Improvements Project owner's advisor procurement and a Notice of Determination for the Headworks Improvements and New Headworks projects design-builder procurement. The City also received a single statement of qualifications (SOQ) for the Tunnel Rehabilitation Project design consultant procurement.

In addition, seven CIP projects are under construction and made significant progress in August. Resolution of final outstanding work items continued on the Digester Gas Compressor Upgrade and the Emergency Diesel Generators projects. Both projects are substantially complete and are now fully operational. Mobilization and preparation of equipment submittals continued on the Headworks Critical Improvements Project. Major construction activities continued on the Digester and Thickener Facilities Upgrade, Plant Instrument Air System Upgrade, Construction-Enabling Improvements, and Iron Salt Feed Station projects.

On the Digester and Thickener Facilities Upgrade Project, the project team continued to address the many unforeseen conditions that have been encountered during construction. More recently, the team has begun to evaluate a design issue affecting the digester tanks' seismic retrofit which will likely result in additional costs and delays. Staff is anticipating that additional construction contingency will need to be added to the contract before the end of the calendar year, and plan to bring a recommendation to the Treatment Plant Advisory Committee (TPAC) and to the City Council (Council) for approval later this year.

The County recorded the City's Notice of Completion and Acceptance for the Fiber Optic Connection Project. Staff also initiated the Flood Protection Project this month. The project will implement recommendations made in the Flood Protection Study, completed in 2016, to provide protection for the RWF against 100-year return period floods. This project has a total budget of $9.1 million and is scheduled to be completed in late 2021.

Look Ahead

The following key activities are forecast for September/October:

- Conceptual design work will commence for the Filter Rehabilitation Project.
- Condition assessment work will begin for Support Building - Fire Life Safety Upgrade and Support Building - HVAC Improvements projects.
- The Advanced Facility Control and Meter Replacement Project design consultant Black and Veatch will submit the 90 percent design package for the first phase of work and the City will advertise the prequalification document for the construction contract.
- The Blower Improvements Project design consultant Brown and Caldwell will submit the 60 percent design package.
- The Cogeneration Facility Project team will seek approval of Early Work Package 2 for site work needed for the engine generators and expect to receive the Authority to Construct from the Bay Area Air Quality Management District (BAAQMD).
- The Digester Gas Compressor Project will seek approval to advance through the PDM's Substantial Completion stage gate.
- Staff will recommend amending the existing Master Consultant Agreement (MCA) with Stantec (formerly MWH) to TPAC and Council, extending program management services through June 2023 to align with the 10-year CIP.
- Staff will present the Semiannual CIP Status Report (January-June 2017) to the Transportation and Environmental Committee, TPAC, and Council.

Program Highlight – The Inspection Process During Construction

"The toughest job in construction is that of the inspector," writes Silas Birch, author and editor of numerous publications on public works. "The inspector is the vital link between what the designer conceives and the finished product."

At the RWF, the Department of Public Works is responsible for providing and overseeing construction inspection to ensure that CIP projects are built in compliance with project plans and specifications. This is no simple task. Projects are subject to contract amendments and changes, unforeseen conditions, complex material and administrative submittals, and changing coordination requirements. Likewise, the inspector is required to stay up to date on these changes and adjust accordingly.

The RWF is an industrial facility that houses both people and complex mechanical, electrical, and instrumentation processes. These processes must meet ever changing environmental and building code requirements, and inspectors with training in numerous disciplines are required to certify that work is being accomplished according to plan. For example, on the Construction Management (CM) team, City civil inspectors, contracted mechanical and electrical inspectors, third-party special inspectors, and City code inspectors all work to ensure that projects are successful from launch to completion.

Organizationally for each project, a City inspector, also known as project inspector (PI), reports directly to the project resident engineer (RE) who reports to the construction manager. The RE and construction manager work closely with the project manager, who has "cradle to grave" responsibility for the project. CM's effectiveness is dependent on accurate and timely reporting from the PIs in the field. On a typical work day, the PIs are in constant communication with the REs and the construction manager regarding progress and issues related to the projects. The PI serves as the eyes and ears of the City while verifying that the final field product meets contract requirements. The PI interacts with the general contractor daily and must strike the right balance of maintaining a good rapport while clearly identifying any deficiencies in the field. This balancing act requires patience, respect, integrity, and common sense. The PI also works closely with other CM staff and Operations and Maintenance (O&M) staff on coordination issues involving RWF operations. A good example is the Digester and Thickener Facilities Upgrade Project. The PI has worked with CM and O&M staff on more than 100 coordinated shutdowns during the first year of the project alone, delivering consistent, clear, and well-documented communications to all affected staff.

Figure 1: Inspectors on the job site

Historically, inspection for CIP projects has been provided by City inspectors, but in anticipation of the volume of significantly larger and more complex projects in the coming years, the City procured as-needed third-party construction management and inspection services in June 2016. In addition to bringing mechanical, electrical, and instrumentation inspection expertise, these additional resources allow the City's CM team to effectively manage the increased workload. One of the first projects to use full-time third-party electrical and mechanical inspectors is the Digester and Thickener Facilities Upgrade Project.

There are two types of on-call inspections: Third-party special inspections and City code inspections. Third-party special inspections include soil and asphalt testing, structural rebar, concrete, masonry, coating, and welding inspections and are defined in Chapter 17 of the International Code Council (ICC). The ICC is responsible for the International Building Code (IBC), which the state of California uses for drafting its own building code. Each project plan includes a table of inspections that identifies which construction activities require third-party special inspections. When a contractor needs a special inspection, he or she will submit an inspection request form to the PI, who then submits the request to the special inspection firm assigned to that project. The CM team uses EADOC, a document management program, for routing, monitoring status, and recording all special inspection forms.

The second type of on-call inspections, City code inspections, are provided through the Public Works Structural Engineering & Code Inspections (SECI) group, which ensures overall compliance with all applicable code, including the California Building Code. Once a project has obtained the Public Works Building Permit to construct, SECI's code inspection role starts with coordination at the pre-construction meeting. During construction, the PI will send a request for code inspection to SECI. A licensed code inspector will perform inspections based on the SECI-approved plans. At the end of construction, the SECI building inspector will perform final inspections and sign off on the Building Inspection Record card, posted at the project site. If the project has a building to occupy, a Certificate of Occupancy will be signed by the City building official.

Successful RWF project inspection is complex, with City PIs at the center. A coordinated approach is key, and will become increasingly important as CIP construction activity ramps up in the future.

Program Performance Summary

Eight key performance indicators (KPIs) have been established to measure overall CIP success. Each KPI represents a metric that will be monitored on a regular frequency. Through the life of the CIP, KPIs that best reflect the current program will be selected and measured. KPIs have been reset for this fiscal year.

Program Key Performance Indicators – Fiscal Year 2017-2018

KPI	Target	Fiscal Year to Date			Fiscal Year End		
		Actual	Status	Trend	Forecast	Status	Trend
Stage Gates	80%	100% 3/3			100% 22/22		
Measurement: Percentage of initiated projects and studies that successfully pass each stage gate on their first attempt. Target: Green: >=80%; Amber: 70% to 80%; Red: < 70%							
Schedule	90%	0% 0/1			60% 3/5		
Measurement: Percentage of CIP projects delivered within 2 months of approved baseline Beneficial Use Milestone.[2] Target: Green: >=90%; Amber: 75% to 89%; Red: < 75%							
Budget	90%	100% 1/1[1]			86% 6/7		
Measurement: Percentage of CIP projects that are accepted by the City within the approved baseline budget.[2] Target: Green: >=90%; Amber: 75% to 89%; Red: < 75%							
Expenditure	$249M	$161M			$284M[3]		
Measurement: CIP FY17-18 committed costs. Target: Committed cost meets or exceeds 70% of planned Budget. 70% of $356M = $249M. Therefore Green: >=$249M; Amber: $196M to $249M; Red: < $196M							
Procurement	80%	NA 0/0			100% 4/4		
Measurement: Number of consultant and contractor procurements advertised compared to planned for the fiscal year. Target: Green: >=80%; Amber: 70% to 79%; Red: < 70%							
Safety	0	0			0		
Measurement: Number of OSHA reportable incidents associated with CIP delivery for the fiscal year. Criteria: Green: zero incidents; Amber: 1 to 2; Red: > 2							
Environmental	0	0			0		
Measurement: Number of permit violations caused by CIP delivery for the fiscal year. Target: Green: zero incidents; Amber: 1 to 2; Red: > 2							
Staffing[4]	80%	NA 0/0			100% 15/15		
Measurement: Number of planned positions filled for the fiscal year. Target: Green: >=80%; Amber: 70% to 79%; Red: < 70%							

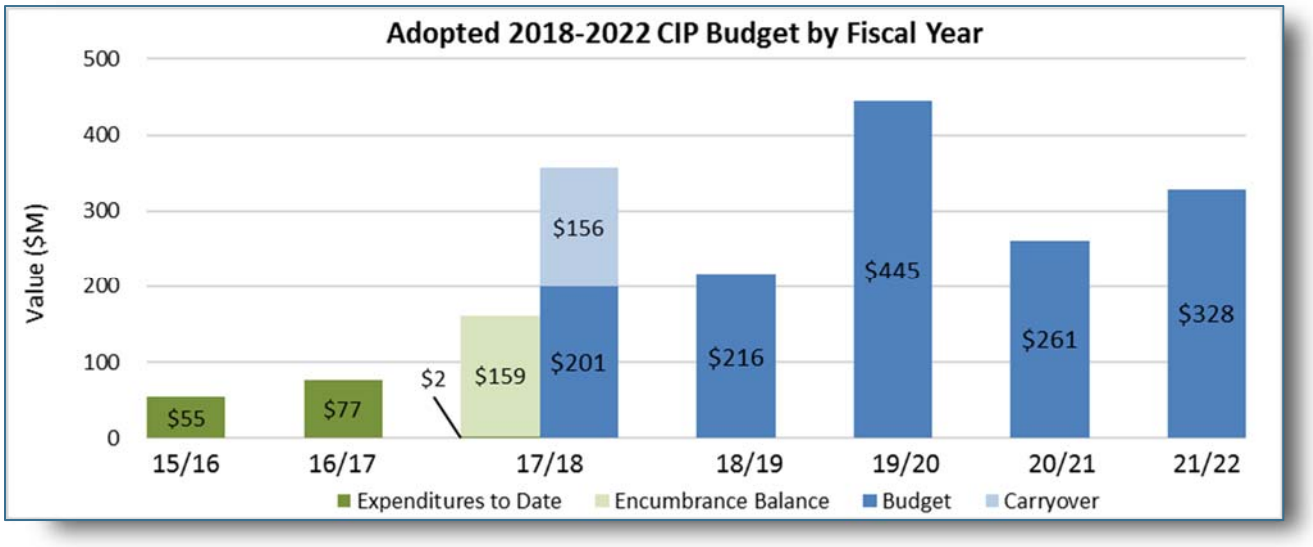
Notes

1. The Fiber Optic Connection Project was accepted by the City and delivered within the approved baseline budget.
2. The baseline Beneficial Use date and the baseline budget for each project are established at construction contract award and execution.
3. The values now reflect updated actual/forecasted amounts.
4. The staffing KPI represents CIP recruitments planned for the fiscal year and is measured quarterly. This KPI measurement does not account for staff turnover throughout the fiscal year.

Program Cost Performance Summary

This section summarizes CIP cost performance for all construction projects and non-construction activities for fiscal year (FY) 17-18 and for the 2018-2022 CIP.

Adopted 2018-2022 CIP Expenditure and Encumbrances



Notes

Actual budget: $200.5M; actual carryover balance: $155.9M; rounded total: $356M.

Expenditure: Actual cost expended, either by check to a vendor or through the City's financial system, for expenses such as payroll or non-personal expenses that do not require a contract.

Encumbrance**:** Financial commitments, such as purchase orders or contracts, that are committed to a vendor, consultant, or contractor. An encumbrance reserves the funding within the appropriation and project.

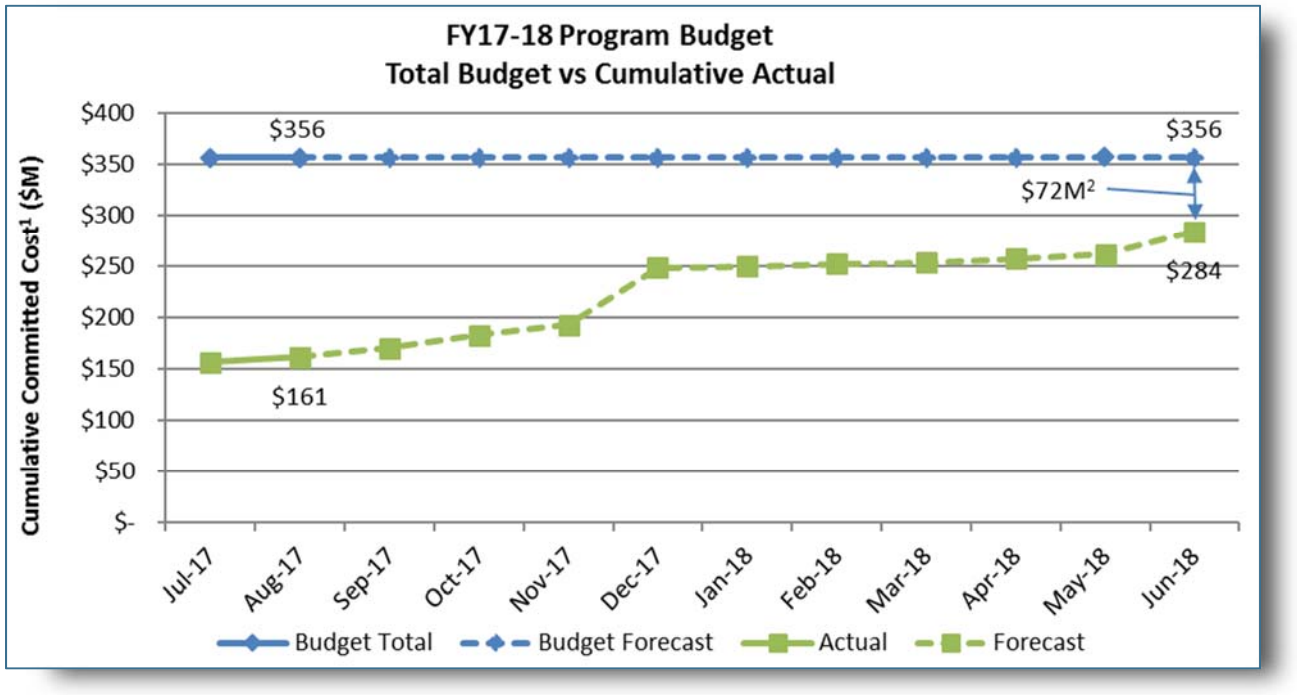
Encumbrance balance: The amount of the remaining encumbrance committed after payments.

Budget: Adopted 2018-2022 CIP Budget, which is new funding plus rebudgeted funds in FY17-18.

Carryover: Encumbrance balances at the end of a fiscal year become carryover funding. Carryover is different from rebudgeted funds in that it automatically utilizes funding that was previously committed, but not yet paid.

Fiscal Year 2017-2018 Program Budget Performance

This budget comprises the FY17-18 budget of $200.5 million, plus carryover of $155.9 million. The budget excludes Reserves, Ending Fund Balance, South Bay Water Recycling, Public Art, and Urgent and Unscheduled Rehabilitation items.



Notes

1. Committed costs are expenditures and encumbrance balances, including carryover (encumbrance balances from the previous fiscal year).
2. The forecast variance between budget and expenditures is primarily attributable to encumbrances currently forecasted to occur in FY18-19. Additional details will be provided in the September report.

Project Performance Summary

There are currently eight active projects in the construction or post-construction phases, with an additional 18 projects in feasibility/development, design, bid and award, or design and construction (design-build projects) phases (see PDM, page 2). All active projects are listed in the tables below. Projects in the construction phase have established cost and schedule baselines and are monitored using the City's Capital Project Management System (CPMS). Green/red icons are included in the table below to indicate whether these projects are on budget and schedule, using CPMS data as a source.

Project Performance – Baselined Projects

Project Name	Phase	Estimated Beneficial Use Date[1]	Cost Performance[2]	Schedule Performance[2]
1. Fiber Optic Connection	Post-Construction	Jan 2017[3]	●	●
2. Digester Gas Compressor Upgrade	Construction	Apr 2017[3]	◆	◆
3. Emergency Diesel Generators	Construction	Jul 2017[3]	●	◆
4. Iron Salt Feed Station	Construction	Nov 2017	●	●
5. Construction-Enabling Improvements	Construction	Dec 2017	●	◆
6. Plant Instrument Air System Upgrade	Construction	May 2018	●	●
7. Headworks Critical Improvements	Construction	Jun 2018	●	●
8. Digester and Thickener Facilities Upgrade	Construction	Aug 2020	●	◆

KEY:

Cost:	● On Budget	◆	>1% Over Budget
Schedule:	● On Schedule	◆	>2 months delay

Notes

1. Beneficial Use is defined as work that is sufficiently complete, in accordance with contract documents, that it can be used or occupied by the City. Beneficial Use dates are reviewed as part of project schedule reviews.
2. An explanation of cost and schedule variances on specific projects identified in this table is provided on page 12.
3. Actual Beneficial Use date.

Project Performance – Pre-Baselined Projects

Project Name	Phase	Estimated Beneficial Use Date1
1. Cogeneration Facility	Design & Construction	Aug 2019
2. Blower Improvements	Design	Oct 2020
3. Adv. Facility Control & Meter Replacement	Design	Dec 2022
4. Outfall Bridge and Levee Improvements	Feasibility/Development	Oct 2020
5. Flood Protection	Feasibility/Development	Mar 2021
6. Headworks Improvements	Feasibility/Development	May 2021
7. Switchgear S40 Upgrade, M4 Replacement, G3 & G3A Removal	Feasibility/Development	Feb 2022
8. Digested Sludge Dewatering Facility	Feasibility/Development	Jul 2022
9. New Headworks	Feasibility/Development	Sep 2022
10. Support Building - Fire Life Safety Update	Feasibility/Development	Sep 2022
11. Support Building - HVAC Improvements	Feasibility/Development	Sep 2022
12. Filter Rehabilitation	Feasibility/Development	Oct 2022
13. Facility-wide Water Systems Improvements	Feasibility/Development	Feb 2023
14. Nitrification Clarifiers Rehabilitation	Feasibility/Development	Nov 2023
15. Aeration Tanks Rehabilitation	Feasibility/Development	Aug 2025
16. Tunnel Rehabilitation	Feasibility/Development	Aug 2026
17. Support Building Improvements	Feasibility/Development	Dec 2026
18. Yard Piping and Road Improvements	Feasibility/Development	Jan 2027

Notes

1. Beneficial Use is defined as work that is sufficiently complete, in accordance with contract documents, that it can be used or occupied by the City. Beneficial Use dates are reviewed as part of project schedule reviews.

Significant Accomplishments

Biosolids Package

Digester Thickener and Facilities Upgrade

- Contractor Walsh Construction is continuing work on the structural rehabilitation of the digesters, completing the installation of post-tensioning cables.
- The contractor is continuing work on the sludge storage tank for the new sludge screening facility, and on the extension of the dissolved air floatation tanks' walls.
- The contractor is proceeding with preparations for this fall's digester gas bypass and is finalizing the primary effluent pipeline bypass for upcoming repairs to the 78-inch pipe and wye structure, to commence in spring 2018.

Digested Sludge Dewatering Facility

- The project team conducted a workshop to finalize alternatives and select potential building layouts. Owner's Advisor Brown and Caldwell will prepare technical memoranda for the project alternatives analysis phase.

Facilities Package

Cogeneration Facility

- The design-builder CH2M submitted the 60 percent design package and pricing proposals for taking the design from 60 percent to 100 percent to the City for review. The City anticipates approving Early Work Package 2 for site work in early September.

Construction-Enabling Improvements

- The contractor delivered the badging/security trailer to the site. Completed portions of the lay-down yard are currently being used by other contractors working on the RWF site.

Facility-wide Water Systems Improvements

- Design consultant Kennedy Jenks completed field testing of the four water systems at the RWF. The design consultant will issue the completed condition assessment report in September and will continue to build and calibrate a hydraulic model of the four water systems.

Tunnel Rehabilitation

- The project team held a non-mandatory site conference for prospective design consultants. The City received one SOQ.

Yard Piping and Road Improvements

- The City issued final rankings for the Owner's Advisor services procurement.

Liquids Package

Aeration Tanks Rehabilitation

- Design consultant Brown and Caldwell performed a condition assessment of the aeration tanks, and field-testing of the primary clarifiers and activated sludge process. The consultant also evaluated alternatives for future aeration tank configurations to meet potential future discharge requirements. Next month, the Project team will begin preparation of the condition assessment report and scope for the alternatives analysis.

Filter Rehabilitation

- The project team issued a Notice to Proceed to design consultant Kennedy Jenks to begin conceptual design. The kickoff meeting will be held in early September.

Headworks Improvements and New Headworks

- The technical evaluation panel evaluated the SOQs by four design/build teams. A notice of determination of the scoring was posted and the City short listed three firms. The City anticipates advertising the Request for Proposals to the short-listed design/build teams this fall.

Nitrification Clarifiers Rehabilitation

- Design consultant HDR performed a condition assessment of the raw activated sludge pipelines in biological nutrient removal area two and used a light detection and ranging (LIDAR) survey technique to check for elevation irregularities in the clarifier floors. Next, the design team will prepare the condition assessment report.

Power and Energy

Emergency Diesel Generators

- The CAT/ISO team have completed all the punch list items, including the modification to correct the missing member issues to the Woodward Digital Speed and Load Controller & Master Speed and Load Controller controllers.

Plant Instrument Air System Upgrade

- Contractor Anderson Pacific poured the new compressor building grade floor and equipment concrete pads.

Explanation of Project Performance Issues

Construction-Enabling Improvements

This project was originally scheduled to be substantially complete by mid-February 2017. Due to the extremely wet winter season, contractor Teichert Construction was unable to perform site work for several weeks from October through April. Teichert has been granted 47 extra work days for weather-related delays. Teichert has also been granted additional time for the removal and replacement of asphalt pavement in damaged areas of Zanker Road; installing traffic-rated pull boxes for the streetlight system; installing underground conduits for the fiber optic system; and additional changes.

Delays in the fabrication and delivery of the portable trailers required for the project continue to impact the schedule. The trailer to be used for badging and training was delivered in August, but the trailers to be used for CM personnel are still under fabrication. Teichert now estimates that the CM trailers will be delivered in late October. Installation and furnishing of the CM trailers, plus final inspection, should take another four to six weeks, placing the Beneficial Use date in December 2017.

Digester and Thickener Facilities Upgrade

Numerous unforeseen conditions are impacting the project schedule. The conditions, detailed below, are resulting in an estimated delay to the Beneficial Use date of four months. The project team continues to evaluate the schedule delays.

- Major corrosion of an existing, below-ground 78-inch settled sewage (SES) pipeline and junction structure was encountered during construction. This corrosion has impacted the dissolved air floatation tank piping connections, two new pressurization flow boxes, and utility relocation work. All repairs have been postponed until the 2018 dry season, when a bypass pumping system can be safely installed to allow repair work to continue. Pricing and submittal review of bypass pumps and piping is in progress.
- An unidentified, 36-inch biochemical oxygen demand pipe was discovered during preparation of the foundation for the new sludge screen building. The contractor removed this pipe and relocated several unforeseen digester and landfill gas drain vaults and associated piping.
- Multiple unforeseen utility conflicts with water, natural gas, digester gas, landfill gas, storm drain, and sanitary sewer pipelines have impacted progress. These conflicts have caused numerous utility pipe, conduit, and duct bank relocations across the site, and have also impacted the new digester gas pipe rack footings, causing rerouting and other design changes.
- Digester gas bypass work has been delayed approximately six months due to BAAQMD venting restrictions. Work on digester gas bypass connections has begun, with the installation of the bypass anticipated to be completed later this fall.
- Digester structural design is being revised to account for seismic forces likely to be experienced. Revised design details will result in schedule delays and increased coordination with ongoing construction.

Digester Gas Compressor Upgrade

This project is over budget by approximately 3 percent due to higher than anticipated project delivery costs associated with increased construction inspection requirements and an extended project timeline.

The contractor achieved Beneficial Use in April 2017; final acceptance is scheduled for October. This schedule delay was primarily due to the following factors:

- The compressor skids needed to be reclassified from Class 1, Division 2 to Class 1, Division 1. This issue was resolved in May 2015.
- BAAQMD delayed approval of the digester gas flaring during the tie-in of the new gas piping. This issue was resolved in November 2016.
- Functional testing of the automation system took longer than anticipated.
- Multiple competing process shutdowns with other projects contributed to the delay.

Emergency Diesel Generator

This project reached Beneficial Use July 7; final acceptance is scheduled for October. The schedule shows a project completion delay of approximately one year from the Notice to Proceed (NTP) completion date. The City granted a schedule addition of 179 working days through the change order process due to additional scope. The project has extended beyond the original schedule due to the following factors:

- Caterpillar, the supplier of the emergency diesel generator system, has taken longer than expected to develop the controls and network switches that interface with existing RWF controls. Caterpillar and Peterson Control are in the process of completing all outstanding items. A problem was found with the new network switches during the factory acceptance test. The City and the design-build team completed an engineering study and found a solution to the problem. Additional switches have been installed for the existing network system. Caterpillar's completion of the Level 2 process load tuning testing for four new emergency diesel generators also took longer than anticipated.

- Additional time was required for PG&E to review the third-party report on the protective devices testing and to schedule the witness test for the new emergency diesel generators. PG&E has now completed this work.
- A no-cost time extension change order was required to split the commissioning sequence into two phases and ensure RWF backup power during engine modification work. The contractor completed the first two phases of the project, including modifications to the existing EG1 engine; an eight-hour load test for the four new generators; installation of the fueling and diesel exhaust fluid systems; and upgrades to the existing EG2 and EG3 engines and M4 switchgear. The project was completed in July and is moving into the post-construction phase for completion of remaining minor outstanding items and necessary training.

Project Profile – Facility-wide Water System

Background

The RWF currently has four major water systems that support day-to-day operations and maintenance activities, and the wastewater treatment processes. The four water systems include:

- 1W: This water system is sourced by the City's Municipal System, or potable system, and is used for drinking, plumbing fixtures, makeup water for cooling, and eyewash stations;
- 2W: This water system is sourced by groundwater, and is used for processes such as pump seal water, flushing, and cooling;
- 3W: This water system is sourced by process water from plant effluent, and is used for the digester heat loop, cooling water for engines, and capping water at the lagoons; and
- 4W: This water system is sourced by process water from plant effluent, and is used for fire protection for most of the buildings and purple hydrants around the plant.

The 1W, 2W, and 3W systems are well beyond their useful life and require frequent repairs due to leaks and failures. Limited analysis has been done over the years to determine the condition and service capacity of these water systems and whether they are sufficient to meet both current and future water demands. The 4W system is sourced from final plant effluent; the project team will determine whether there is adequate capacity to meet fire flow demands as well as O&M and treatment process requirements, and whether it should be separated as a standalone system and potentially converted to potable water source.

The purpose of this project is to rehabilitate, replace, combine, and/or extend the RWF's four water systems, including piping, valves, pumps, controls, and other ancillary equipment. The scope of design work and extent of services will be based on condition assessment, hydraulic modeling, and study of existing and future water sources and demands at the RWF. The project will not include design of new piping and ancillary equipment inside buildings or treatment facilities, which will be included in the scope of other CIP projects.

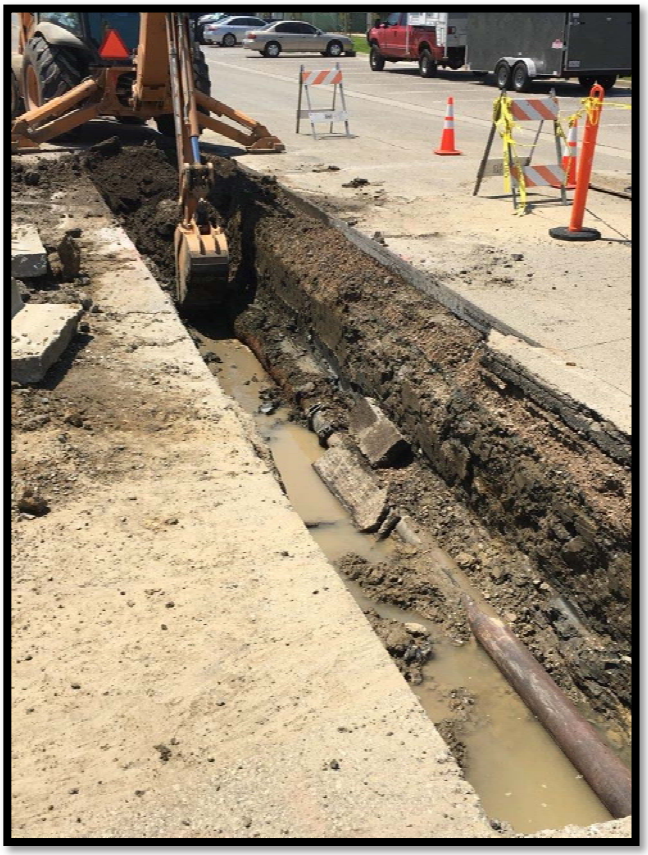
The project will be delivered using conventional design-bid-build (DBB) approach. Completion of this project will result in more reliable potable and process water systems; a water system exclusively for fire protection use; and an adequate water supply with redundancy for future upgrades and new CIP facilities within the RWF. This project is scheduled to be completed by 2023.

The current total project budget is approximately $17.7 million, with anticipated construction costs of approximately $13.2 million.

Current Project Status

Kennedy/Jenks Consultants was awarded an MCA in September 2016 to provide design engineering services and recently completed a condition assessment of the water systems. This month, they completed field testing and hydraulic data collection with assistance from City staff. The results will be used to calibrate the hydraulic model to identify deficiencies in the water systems. The next steps will be to estimate future water demands for CIP projects that will be used in the hydraulic model to simulate a 2040 build-out scenario. The results of the model and the condition assessment will be used in the alternative analysis. This analysis will identify necessary water systems improvements moving forward into the design phase in mid-2018.

Figures 2 and 3 (next page) illustrate the type of pipe failures commonly encountered with the 1W, 2W, and 3W systems.



Figures 2 & 3: 2W pipe break

Regional Wastewater Facility Treatment – Current Treatment Process Flow Diagram

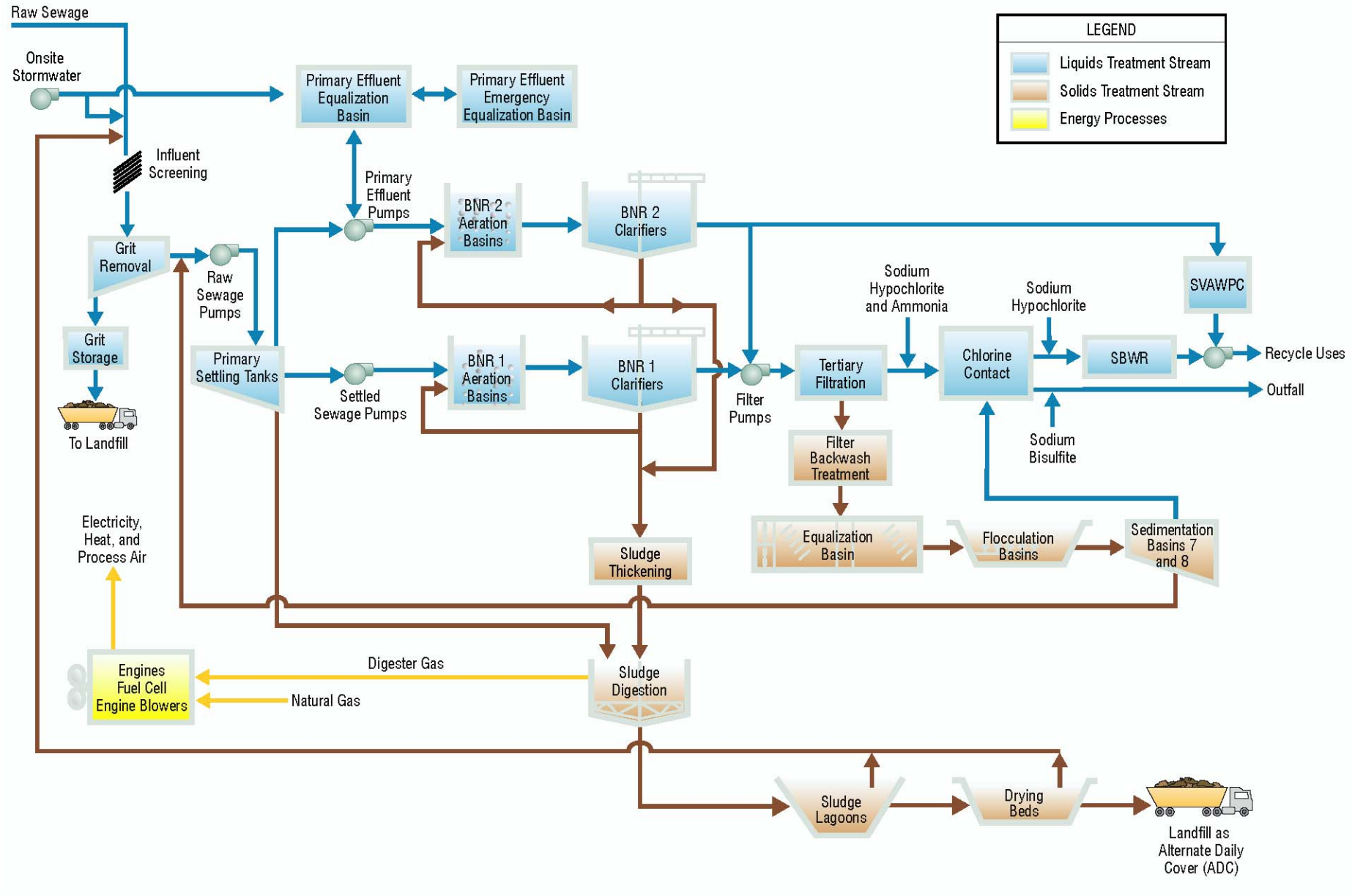


Figure 4 – Current Treatment Process Flow Diagram

Regional Wastewater Facility Treatment – Proposed Treatment Process Flow Diagram

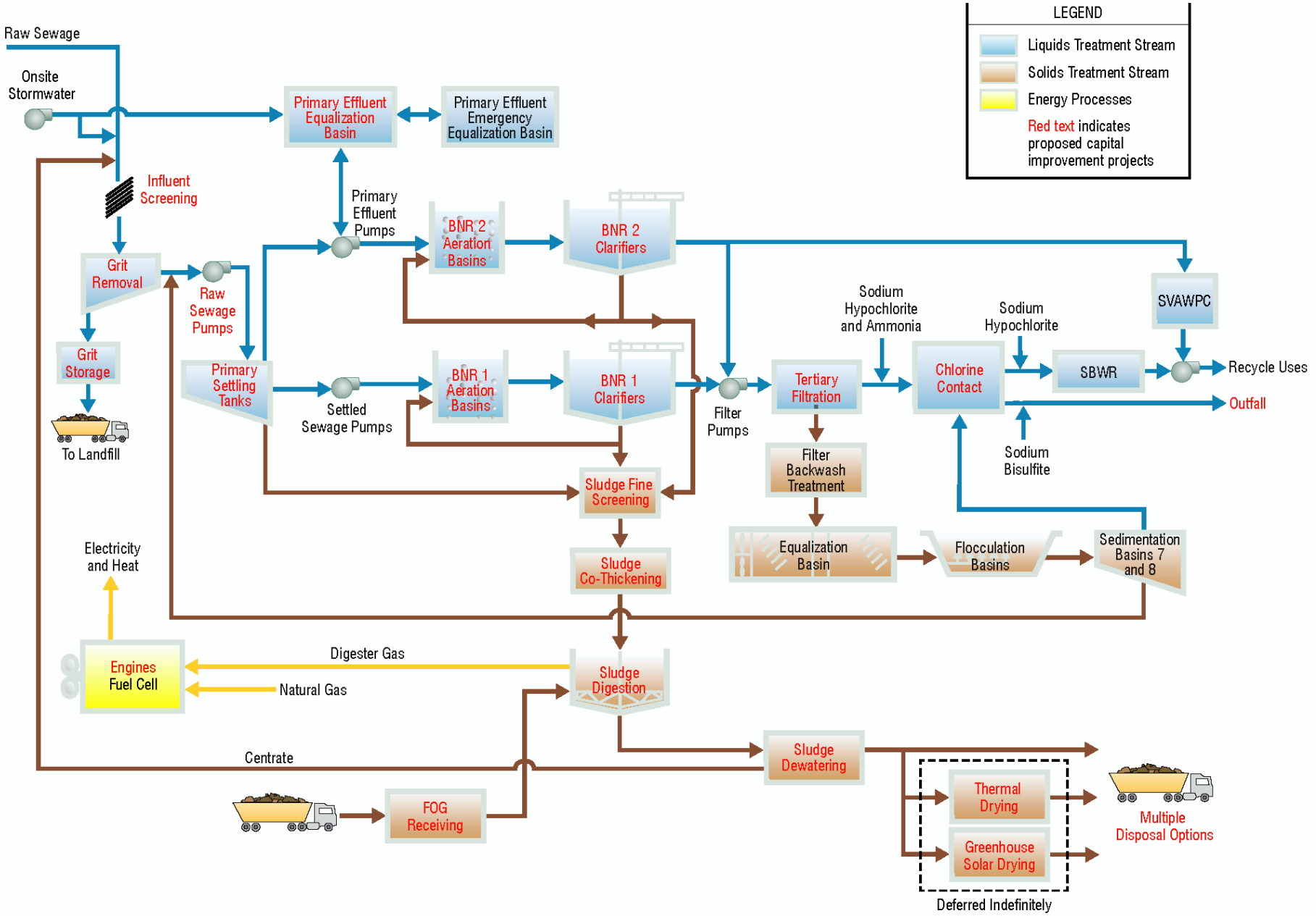


Figure 5 – Proposed Treatment Process Flow Diagram

Active Construction Projects – Aerial Plan

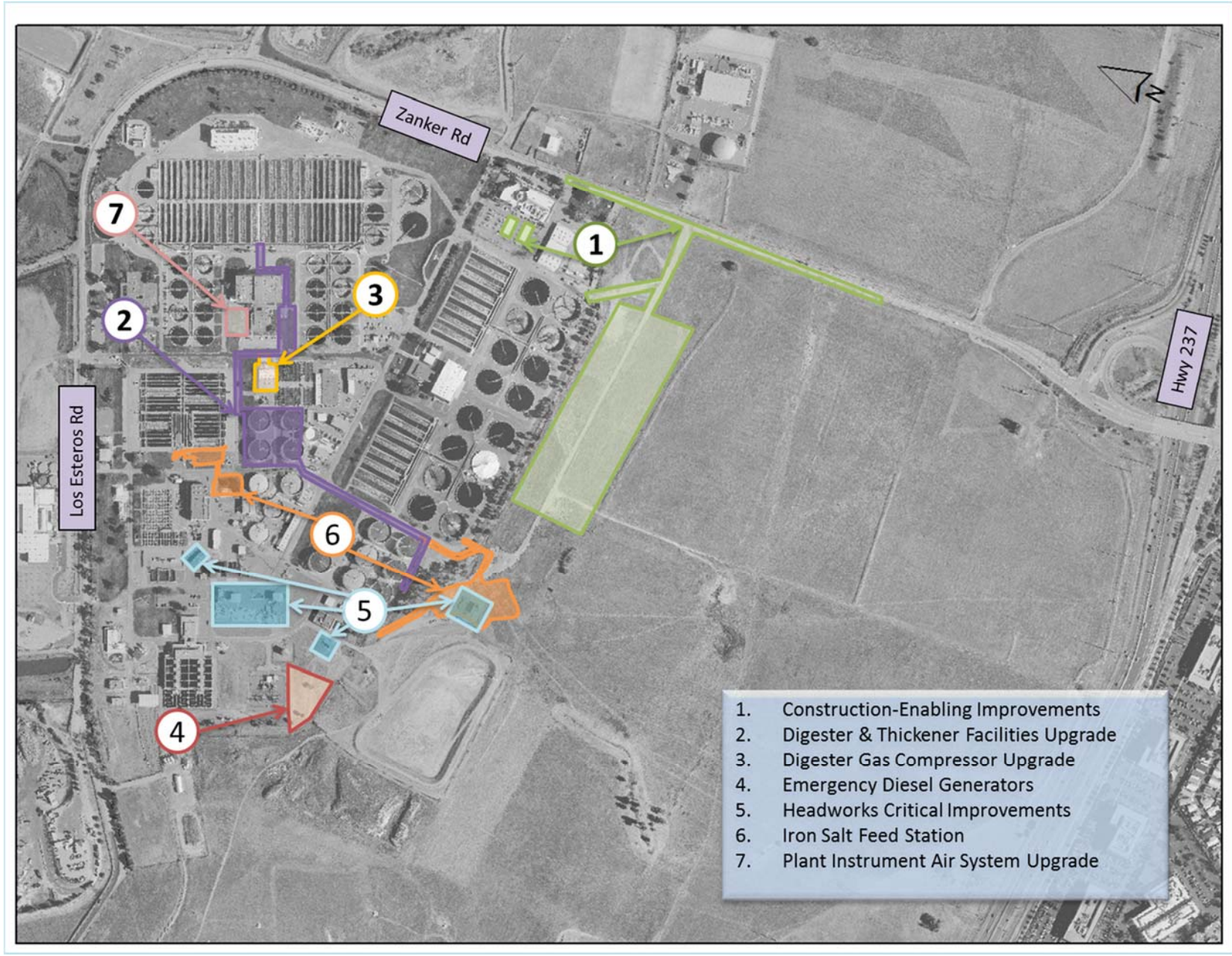


Figure 6 – Active Construction Projects

COUNCIL AGENDA: 10/3/17
ITEM: SJFA 2 (17-119)

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL AND CITY OF SAN JOSE FINANCING AUTHORITY BOARD

FROM: Julia H. Cooper
Kerrie Romanow

SUBJECT: SEE BELOW

DATE: September 18, 2017

Approved D-DSyL Date 9/22/17

SUBJECT: ACTIONS RELATED TO THE ESTABLISHMENT OF AN INTERIM FINANCING PROGRAM TO FINANCE CAPITAL IMPROVEMENTS AT THE SAN JOSE-SANTA CLARA REGIONAL WASTEWATER FACILITY

RECOMMENDATION

1. It is recommended that the City Council:

    a. Adopt a resolution providing for the allocation of Wastewater System Revenues, the pledge of Wastewater Net System Revenues, and establishing covenants to secure the payment of obligations payable from Wastewater Net System Revenue and repealing prior inconsistent resolutions.

    b. Adopt a resolution approving the issuance by the City of San José Financing Authority of its Subordinate Wastewater Revenue Notes from time to time in an aggregate principal amount not to exceed $300,000,000 outstanding at any one time for the purpose of financing Wastewater System and Treatment Plant Projects for the City of San José and/or refunding Prior Obligations issued or incurred for such purpose, approving and authorizing the execution and delivery of a Credit Agreement and a Fee Letter Agreement with Wells Fargo Bank, National Association, and a Subordinate Installment Purchase Contract, and authorizing other related actions in connection therewith.

2. It is recommended that the City of San José Financing Authority Board:

    a. Adopt a resolution authorizing the issuance by the City of San José Financing Authority of its Subordinate Wastewater Revenue Notes from time to time in an aggregate principal amount not to exceed $300,000,000 outstanding at any one time for the purpose of financing Wastewater System and Treatment Plant Projects for the City of San José and/or refunding Prior Obligations issued or incurred for such purpose, approving and authorizing the execution and delivery of a Credit Agreement and a Fee Letter Agreement with Wells Fargo Bank, National Association, and a Subordinate Installment Purchase Contract, and authorizing other related actions in connection therewith.

OUTCOME

Approval of these recommendations will allow the establishment of an interim financing program under a three-year contract that enables the issuance of subordinate wastewater revenue notes that can be outstanding at any one time in an amount not to exceed $300 million to finance capital improvements at the San José-Santa Clara Regional Wastewater Facility, and will provide for the allocation, pledge and commitment of wastewater system net revenues received by the City to secure repayment of the notes.

EXECUTIVE SUMMARY

The purpose of the interim financing facility is to help bridge the financing gap between cash funding of the $1.4 billion Capital Improvement Program ("CIP") for the San José- Santa Clara Regional Wastewater Facility ("RWF") and obtaining long-term financing in the form of bonds. To prepare for the interim financing facility, the City of San José ("City") issued an RFP on April 3, 2017 for firms interested in establishing an interim financing facility in support of the RWF CIP. Respondents were asked to provide commitment amounts and fee levels for both $300 million and $420 million, the higher amount being sought in case the tributary agencies and Santa Clara chose to participate. Proposer responses were due on May 5, 2017. The City received nine responses for interim financing facilities – only two banks committed to both funding levels. On July 18, 2017, the City's evaluation team selected Wells Fargo Bank, National Association as providing the most cost effective and flexible credit facility. The $300 million interim financing facility, if approved, would be available to meet the cash flow and financing needs of the City's Environmental Services Department ("ESD") during the early construction phases of the major construction process. As the project progresses, the City will periodically pay off the interim financing facility with long-term bonds. Any associated debt service for financing (whether interim or long-term) will be paid by net system revenues of the facility. It is expected that the closing for the interim financing facility will occur on or about

October 19, 2017. It is necessary to have the interim facility in place by the end of October to allow ESD to encumber contracts it anticipates executing later this calendar year.

BACKGROUND

Treatment Plant - Capital Improvement Program

Overview

The San José-Santa Clara Water Pollution Control Plant ("Treatment Plant" or "Plant") is a regional wastewater facility serving eight South Bay cities (some as members of a district) and two unincorporated districts: San José, Santa Clara, Milpitas, Cupertino Sanitary District (Cupertino), West Valley Sanitation District (Campbell, Los Gatos, Monte Sereno, and Saratoga), County Sanitation District No. 2-3 (unincorporated), and Burbank Sanitation District (unincorporated) (the "Tributary Agencies" being all agencies except the cities of San José and Santa Clara). The Treatment Plant is jointly owned by the cities of San José and Santa Clara, and is administered and operated by ESD. ESD is also responsible for planning, designing, and constructing capital improvements at the Plant, including water reclamation facilities. On March 26, 2013, the City Council approved changing the name of the Plant to the San José-Santa Clara Regional Wastewater Facility for use in public communications and outreach.

The Treatment Plant is in the early stages of a $1.4 billion, 10-year CIP to rebuild and modernize the facility and its processes. The recently adopted 2017-2018 Capital Budget and 2018-2022 CIP (Water Pollution Control section seen here: http://www.sanjoseca.gov/DocumentCenter/View/71793) identifies the expected revenues and project costs for the next five-year period. The development of CIP is guided by the Plant Master Plan ("PMP"), a 30-year planning-level document focused on long-term rehabilitation and modernization of the Plant. The PMP (http://www.sanjoseca.gov/DocumentCenter/View/38425) recommended more than 114 capital improvement projects to be implemented over 30 years at an estimated investment level of approximately $2 billion. The PMP was approved by both San José and Santa Clara City Councils in late 2013. In 2014, the City completed a project validation process that analyzed the criticality, sequencing, and interconnectivity of the PMP projects, and packaged them for more efficient project implementation, resulting in updated project schedules and cost estimates that make up the 10-year, $1.4 billion CIP.

Ten-Year Funding Strategy

Since early 2014, City staff has been working with representatives from Santa Clara and the Tributary Agencies to develop a ten-year funding strategy to provide sustained funding for the 10-year, $1.4 billion CIP and to allow the Tributary Agencies to participate with the City, and possibly Santa Clara, in financing of the projects to allow the recognition of costs to ratepayers

over the life of the projects instead of through pay-as-you-go funding. On June 2, 2015, City Council approved the Ten-Year Funding Strategy, and on January 12, 2016 approved an update. The staff reports can be viewed here:

June 2, 2015 Memo:
http://sanjose.granicus.com/MetaViewer.php?view_id=&event_id=732&meta_id=516433
January 12, 2016 Memo:
http://sanjose.granicus.com/MetaViewer.php?view_id=&event_id=2118&meta_id=550326

The Tributary Agencies initially expressed interest in the interim financing discussed in the Ten-Year Funding Strategy and contemplated herein, as well as California State Water Resources Control Board (SWRCB) clean water State Revolving Funds (SRF) loans and future long-term financing, but declined to limit the amendment of the Master Agreement for Wastewater Treatment Services with the City and Santa Clara to only terms necessary to ensure payment on the financings. As a result, the Tributary Agencies are not currently participating in the proposed interim financing. The Tributary Agencies also declined to participate in seeking an SRF loan for which the City and the Santa Clara as co-owners of the Plant submitted an application. As staff previously informed the City Council (see information memo here: http://files.constantcontact.com/7a210436601/5abb91b5-45ee-4673-9daf-4d031c80fcbd.pdf), the State did not approve the SRF loan application, indicating that the State's focus is on other types of projects. The Tributary Agencies have remitted their quarterly payments for allocated capital costs and may decide at a future date to renew discussions regarding participation in Plant financings administered by the City. Santa Clara also plans to secure its own financings for its share of capital costs.

Financing of Capital Improvements at Treatment Plant

Since 1982, capital improvements at the Treatment Plant have been financed two different ways. In 1981, the San José-Santa Clara Clean Water Financing Authority ("CWFA"), a joint powers authority of the City and Santa Clara, was formed to finance the acquisition and construction of improvements to the Plant. Between 1982 and 2009, the CWFA issued various series of long-term, new money and refunding bonds. Currently, only the CWFA, Sewer Revenue Refunding Bonds, Series 2009A (the "CWFA 2009A Bonds") remain outstanding in the amount of $20.7 million and have a final maturity date of November 15, 2020. The CWFA 2009A Bonds were issued to refund prior bonds that were issued to pay for capital improvements for recycling treated wastewater from the Treatment Plant for irrigation and industrial uses in the City, Santa Clara, and Milpitas. Secondly, beginning in 1997, the City (not the CWFA) entered into SRF loan agreements (cumulatively, the "SRF Loan") to finance various Plant projects. The SRF Loan currently totals $4.76 million and is scheduled to be paid off by May 1, 2019.

As discussed in the 2018-2022 CIP and the Ten-Year Funding Strategy, going forward, City staff will continue to pursue SRF loans. The core Treatment Plant CIP funding plan, however, is expected to include the use of bank credit and the issuance of bonds. For the interim financing

program contemplated herein that utilizes bank credit (the "Program") and future long-term bonds anticipated to be issued to supplement and/or refinance notes issued under the Program, debt will be issued by the City of San José Financing Authority ("CSJFA"), a joint powers authority of the City and the Redevelopment Agency. Financing projects through the CSJFA instead of the CWFA provides the City autonomy in its decision-making process, and does not prohibit Santa Clara, as the other party to the CWFA and co-owner of the Plant, from securing financing based on its own ratepayer revenues and allocable share of Tributary Agency payments.

Request for Proposals for Interim Financing Program

On April 3, 2017, the City posted a Request for Proposals for Bank Support of a Commercial Paper Program or Revolving Line of Credit ("Bank RFP") to the BidSync solicitation posting system and also emailed banks known to provide such facilities informing them about the Bank RFP being posted to BidSync. The Bank RFP requested offers of $300 million to $420 million of which the lower amount is expected to support the City's capital financing needs for the Regional Wastewater Facility. The additional $120 million requested with the higher amount would be needed if Santa Clara and the Tributary Agencies were interested in participating.

By the May 5, 2017 due date for the Bank RFP, nine responses provided offers of bank support for a commercial paper program (letter of credit) and/or a line of credit. The table below shows the banks, amount offered, and type of bank supported offered by the respondents to the Bank RFP:

Bank	Amount ($ millions) / Type(s) of Support
Bank of America, N.A.	300 / Letter of Credit
Bank of China, Los Angeles Branch	420 / Letter of Credit
Barclays Bank PLC	300 / Letter of Credit
Citibank, N.A.	150 / Letter of Credit
Industrial and Commercial Bank of China Limited, New York Branch	300 / Letter of Credit
JPMorgan Chase Bank, N.A.	420 / Letter of Credit 420 / Line of Credit
MUFG Union Bank, N.A.	300 / Letter of Credit
Wells Fargo Bank, N.A.	420 / Letter of Credit 420 / Line of Credit
U.S. Bank N.A. / Sumitomo Mitsui Banking Corporation	300 / Letter of Credit 150 / Line of Credit (US Bank)

The City focused on the bank responses for the $300 million of credit support because Santa Clara and the Tributary Agencies had not decided to participate in the Program at the time. City staff, in consultation with its municipal advisor, Public Resources Advisory Group ("PRAG"),

determined that a direct loan (line of credit) from Wells Fargo Bank, N.A. (the "Bank") was expected to provide the lowest overall cost to the City.

ANALYSIS

City staff has negotiated a three-year agreement with the Bank to provide for the borrowing of up to $300 million outstanding at any one time, as needed, to finance RWF CIP improvements. This interim financing program is part of a long-term plan to provide funding for the RWF CIP at the lowest possible cost and with the least risk. An overview of the financing plan is provided below along with a discussion of the documents that will enable the establishment of the Program pursuant to the recommendations in this memo.

Financing Plan Overview

General

Funding for the City's portion of the RWF CIP will primarily include (1) pay-as-you-go cash funding from available sewer service and use charge revenues imposed by the City with respect to the Treatment Plant and the collection and conveyance (sewer pipe) system and (2) proceeds from debt issuances and loans. The first step in the plan of finance is to establish the Program to provide funding above and beyond any cash that is available from fund balance, which is necessary due to the large scope of the CIP. The Program provides for needed flexibility and liquidity as the City undergoes additional Plant projects that require an additional funding source. As the debt outstanding issued under the Program grows (up to a maximum of $300 million outstanding at any one time), the Authority will periodically issue long-term wastewater revenue bonds to refinance all or a portion of the notes issued under the Program and possibly new money for projects in lieu of additional notes. SRF loans will be entered into if and when they become available to provide supplement funding.

Interim Financing Program

Staff intends to use the Program for construction and 3rd-party capital costs only and funding of City staff costs with cash on hand. The Program is flexible enough to provide funding for City staff costs if needed, however, as well as for refunding other wastewater revenue obligations that could be entered into in the future. Under the Program, the Authority issues notes to the Bank. The Bank makes advances against the notes as requested by the Authority. At the expiration of the bank agreement, the Authority needs to repay the notes in full, extend the agreement, or enter into a new agreement with another bank. If none of these actions occur, balances on the notes transition into a "term out" whereby repayment is required every three months over a three-year

period at an increased borrowing rate (see a more detailed description below under "Credit Agreement and Fee Letter").

Source of Repayment

The source of repayment for wastewater debt obligations under the Program is comprised of installment payments made to the Authority from pledged system revenues received by the City related to the Treatment Plant and the sewer collection and conveyance system (the "Wastewater System", and together with the Treatment Plant the "Wastewater Treatment System") less maintenance and operation costs of the Wastewater Treatment System. These "Net System Revenues" are the security for the Program. There is no pledge of funds from the City's General Fund.

Payments of Program obligations from Net System Revenues are subordinate to payments on existing obligations paid from Net System Revenues, specifically the CWFA 2009A Bonds and SRF Loan and will be subordinate to payment on long-term bonds issued in the future. Although Net System Revenues include revenues of the Wastewater System and could be used to secure financing for sanitary sewer system improvements, the Program is being set-up solely for financing improvements to the Plant.

Master Resolution

Recommendation 1.a. herein refers to the adoption of a master resolution (the "Master Resolution"). The Master Resolution serves as the governing resolution of the City which allocates and pledges Net System Revenues received from operation of the Wastewater System and the Treatment Plant, including associated revenues from Santa Clara and the Tributary Agencies, and establishes covenants to secure the payment of obligations, including those of the Program, from such funds.

Any payments of obligations secured by the proposed pledge of revenues by the Master Resolution is subject to the prior pledge of the City for repayment of the CWFA 2009A Bonds. The plan is to close off the current senior lien (1st lien) on Net System Revenues that supports the CWFA 2009A Bonds when those bonds are paid off in 2020. Long-term obligations, including planned long-term bonds and possibly new SRF loans, issued in the meantime will be issued under the Master Resolution on the same lien (2nd lien) as the existing SRF Loan. The issuance of Subordinate Wastewater Revenue Notes under the Program ("Notes") will be on a subordinate lien (3rd lien) under the Master Resolution. The proposed financing documents allow the City to structure a 4th lien that is subordinate to the lien on the Notes.

The covenants in the Master Resolution include limitations on the sale or disposition of property, maintaining the Wastewater System and Treatment Plant in operating order, and prescribing rates and charges to provide sufficient revenues to cover payment obligations at minimum required levels.

The Master Resolution also repeals Resolution No. 77577 that the Council adopted on November 10, 2015 to provide for the allocation and pledge of wastewater revenues in connection with the SRF loan applications. With the State Water Board's decision to not fund the SRF loan applications, the pledge set forth in Resolution No. 77577 is no longer necessary. The Master Resolution will act as the governing resolution for the allocation and pledge of Net System Revenues for all wastewater financings going forward. Accordingly, Resolution No. 77577 needs to be repealed in order to avoid any conflicts in stated commitments and intentions.

Credit Agreement and Fee Letter Agreement

Overview

The Credit Agreement, along with the Fee Letter Agreement that is incorporated by reference into the Credit Agreement and provides for the fees associated with the Program, includes the financial terms and conditions related to the Bank's commitment to periodically provide loans to the Authority in the form of purchasing Notes. The Credit Agreement describes the terms under which the Bank will extend loans by purchasing Notes, which includes the interest rates that will accrue (which vary depending on whether the Notes are taxable or tax-exempt) and the term of the Credit Agreement. Pursuant to the Credit Agreement, the Notes will mature at the end of the three-year period, at which time the Authority has the obligation to pay the Notes in full unless the Authority and the Bank negotiate an extension. If an extension is not negotiated, the City may repay the Notes by a refunding to another variable rate mode or a fixed rate mode. If the City fails to repay the Notes at the termination date, and assuming no events of default have occurred, the Credit Agreement provides for a "term-out" similar to that provided for in a reimbursement agreement for a letter of credit or liquidity facility, as described below.

Pricing

The Bank's fee, or "spread," is based on the ratings of unenhanced (uninsured) long-term debt that is also secured by Net System Revenues. The fee on any undrawn capacity of up to $300 million (the "Commitment Fee") is 0.25% (or 25 basis points), which is lower than the fee for amounts loaned (the "Applicable Spread"). If loans are drawn, the Notes will accrue interest at an index rate, which is the sum of the relevant floating rate index and Applicable Spread. The floating rate index varies depending on the tax status of the Notes: tax-exempt loans will be based on 70% of One-Month LIBOR (a taxable index) and taxable loans will be based on 100% of One-Month LIBOR. The Applicable Spreads are also higher on taxable loans than tax-exempt loans. The Commitment Fee and Applicable Spread increase if the credit ratings on long-term, unenhanced (uninsured) debt supported by the pledged Net System Revenues are downgraded, as set forth in the following table (the current long-term, unenhanced ratings on the only outstanding, rated obligations paid from the Net System Revenues, the CWFA 2009A Bonds, are Aa2/AAA/AAA, which puts the current fees into the lowest fee rate category):

Ratings on Long-Term, Unenhanced Wastewater Obligations **(Moody's/S&P/Fitch)**	**Commitment Fee (Undrawn Amount)**	**Applicable Spread (Drawn Amount) [Tax-Exempt / Taxable]**
Equal to Aaa/AAA/AAA	0.250%	0.350% / 0.450%
Equal to Aa1/AA+/AA+	0.275%	0.425% / 0.525%
Equal to Aa2/AA/AA	0.300%	0.500% / 0.600%
Equal to Aa3/AA-/AA-	0.325%	0.575% / 0.675%
Equal to A1/A+/A+	0.375%	0.725% / 0.825%
Equal to A2/A/A	0.425%	0.875% / 0.975%
Equal to A3/A-/A-	0.475%	1.025% / 1.125%
A3/A-/A- or below	N/A	Default Rate

In the case of a split rating or differing ratings as between and among the rating agencies, for purposes of determining the Commitment Fee and/or Applicable Spread, (1) if three rating agencies then provide ratings, the middle of such ratings shall apply and (2) if two rating agencies then provide ratings, the lowest of such ratings shall apply.

An alternate pricing methodology was developed in case there are no rated long-term wastewater revenue bonds outstanding on which to base the fee and spread pricing, which is a possibility after the CWFA 2009A Bonds mature on November 15, 2020. Although the Adopted 2018-2022 CIP assumes an issuance of rated bonds on January 1, 2020, a possibility exists that bonds are not issued prior to the final maturity of the CWFA 2009A Bonds. The fee is based on debt service coverage levels from adjusted Net System Revenues and is incorporated into the Fee Letter Agreement.

Additional Terms and Covenants

The Credit Agreement includes the following key terms and covenants that are briefly summarized below:

Termination Date	Three (3) years after effective date of agreement	
Base Rate	Greatest of (i) Bank's prime rate + 1.0%; (ii) Fed Funds Rate + 2.0%; (iii) 7.0%. In the current interest rate environment, the highest of these three rates is the 7.0% per annum rate.	
Bank Rate	Base Rate	(Termination Date through 180 days)
	Base Rate + 1.0%	(181+ days after Termination Date)

	This interest rate is charged when loans have not been repaid and the Credit Agreement has not been extended beyond the Termination Date.
Term Out	Assuming no events of default have occurred and subject to the Authority making certain representations and warranties, if the Authority fails to repay the loans on the Termination Date, the unpaid loans will carry the Bank Rate described above and will be amortized in equal quarterly installments over a period ending three years after the Termination Date. This provision is similar to a "Term Loan" in a reimbursement agreement for a letter of credit or liquidity facility.
Default Rate	Base Rate + 3.0%. Applicable only in the event of a default.
Optional Prepayment	Loans may be prepaid upon two business days' notice, subject to any make-whole funding costs. Any potential make-whole funding costs can be avoided entirely with 30-days' notice to the Bank
Determination of Taxability	Tax-exempt loans are subject to the City paying a taxable rate of interest to the Bank, as well as any fees, penalties, or other costs, in the event all or a portion of the interest is determined to be taxable, whether through a change in law or a determination of taxability that is made by the IRS or legal counsel.
Waiver of Jury Trial	The City, the Authority and the Bank each waive its right to jury trial. Further, the City and the Bank agree that if a waiver of jury trial is unenforceable (which may be the case under California law), the dispute will be adjudicated by a judicial referee per the provisions of California law.
Increased Bank Costs and Capital Adequacy	Increased costs and changes in capital adequacy requirements include changes resulting from the Dodd-Frank Act and Basel III, regardless of the date of enactment.
Participations by the Bank	While it is the Bank's intention to not participate any of the loans, the Bank has the right under the Credit Agreement to sell, assign, negotiate or grant participations in the loans.

As is common in agreements with banks, the Credit Agreement requires the City and the Authority, to the extent permitted by law, to indemnify the Bank for various claims by third parties, the City or the Authority arising from various aspects of this transaction. The only

exception to the Authority's obligation to indemnify the Bank for these claims is where the liability or damages results from the Bank's willful misconduct or gross negligence.

Subordinate Installment Purchase Contract

Under the Subordinate Installment Purchase Contract (the "Contract"), the City makes payments from Net System Revenues to the Authority to purchase RWF projects that were financed by Authority-issued Notes. These payments, and accordingly the Program, are established as subordinate to senior obligations including the CWFA 2009A Bonds, the existing SRF Loan, and future obligations to be established as obligations senior to the Notes, which are anticipated to include long-term bonds and SRF loans but may include other debt instruments.

Resolutions Authorizing Program Documents and Delegation of Authority

Staff recommends that the City Manager, Director of Finance, or their designees (the "City Designated Officers"), and the Executive Director, the Treasurer, their authorized designees, or any officer or employee of the Authority (the "Authority Designated Officers"), be authorized to execute the Credit Agreement and Subordinate Installment Purchase Contract, as posted, on behalf of the City and the Authority, as applicable, with such modifications as the City Designated Officers and Authority Designated Officers determine to be desirable or appropriate, upon consultation with the City Attorney. Staff recommends that the Authority Designated Officers be authorized to execute the Fee Letter Agreement, as posted, on behalf of the Authority, as applicable, with such modifications as the Authority Designated Officers determine to be desirable or appropriate, upon consultation with the City Attorney, and furthermore, recommends that the Authority Designated Officers be authorized to execute Notes for delivery to the Bank as provided in the Credit Agreement.

Financing Team Participants

The financing team participants consist of:

City Municipal Advisor:	Public Resources Advisory Group (PRAG)
Note Counsel:	Orrick Herrington & Sutcliffe
Bank:	Wells Fargo Bank, National Association
Bank Counsel:	Kutak Rock LLP

- Municipal Advisor – PRAG serves as the City's Wastewater Municipal Advisor as selected through a request for proposal ("RFP") process in June 2017 by the Finance Department. PRAG has been advising on the Program under a five-year environmental services general advisory services agreement expired June 30, 2017 pursuant to a short-term extension. Under the City Manager's authority, a non-contingent agreement with

PRAG will be executed for the purposes of providing municipal advisory services related to this transaction.

- Note Counsel – Orrick Herrington & Sutcliffe was selected through a RFP process by the City Attorney's Office.

Financing Schedule

The current proposed schedule is as follows:

Council/Authority approval of agreements:	October 3, 2017
Documents closing:	October 19, 2017

EVALUATION AND FOLLOW-UP

This memorandum presents the set of recommendations related to the City Council and the Authority Board's approval of various actions related to the establishment of an interim financing program for the RWF CIP and requires no additional evaluation or follow-up to the City Council or the Authority Board.

PUBLIC OUTREACH

The proposed resolutions of the City Council and the Financing Authority Board, the Credit Agreement, the Fee Letter Agreement and the Installment Purchase Contract will be posted to the agenda webpage for the joint meeting of the City and the Authority on or about September 22, 2017.

COORDINATION

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

COMMISSION RECOMMENDATION/INPUT

There is no commission recommendation or input associated with this action.

FISCAL/POLICY ALIGNMENT

The proposed financing plan is consistent with the City's Debt Management Policy which establishes objectives in order to obtain cost-effective access to the capital markets, which includes minimizing debt service and issuance costs; maintaining access to cost-effective borrowing; and ensuring compliance with applicable State and Federal laws. The proposed issuance of the variable rate notes and repayment of notes with long term bonds within seven years – the 2018-2022 Adopted CIP assumes an initial issuance of bonds in FY 2019-2020 – is consistent with the City's Debt Management Policy's provisions concerning repayment.

COST SUMMARY/IMPLICATIONS

Costs for establishing the Program, which include the cost for professional services (note counsel, bank counsel, and the City's wastewater municipal advisor) and document hosting, is estimated to be approximately $223,000 and will be paid from Note proceeds. Fee and interest costs associated with Notes issued pursuant to the Program were budgeted to be $3,363,000 in FY 2017-2018. Based on the current Commitment Fee, the annual cost for having the Program in place with no draws against any Notes is $760,000. It is anticipated that total actual costs under the Program in FY 2017-2018 will be less than budgeted due to having procured a lower cost financing and drawing less funds than programmed. The Notes issued for the identified purposes are expected to be repaid periodically from the proceeds of the issuance of long-term bonds.

BUDGET REFERENCE

Debt service costs from having the interim financing in place as well as debt service costs for advances under the Notes issued were included in the 2017-2018 Adopted Capital Budget, and the table below identifies the fund and appropriation proposed to fund the agreement recommended as part of this memorandum:

Fund #	Appn #	Appn. Name	Total Appn.	2017-2018 Adopted Capital Budget (Page)	Last Budget Action (Date, Ord. No.)
512	402C	Debt Service Repayment for Plant Capital Improvement Projects	$3,363,000	306	6/20/17, Ord. No. 29962

The 2017-2018 Adopted Capital Budget assumes that $90 million will be required in interim financing support to cover the cost of capital projects in 2017-2018. Draws on the program will be made monthly shortly after incurrence of the expense and recognition in the City's financial accounting system. Future debt service costs are subject to appropriation by the City Council and will be brought forward for review and approval during the annual budget process in future years requiring debt service payments.

CEQA

San José-Santa Clara Regional Wastewater Facility Master Plan EIR, File No. PP11-043 (Resolution No. 76858).

/s/
JULIA H. COOPER
Director of Finance

/s/
KERRIE ROMANOW
Director of Environmental Services

For questions, please contact Lisa Taitano, Assistant Director of Finance, at (408) 535-7041.

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: TRANSPORTATION AND ENVIRONMENT COMMITTEE

FROM: Kerrie Romanow
Barry Ng

SUBJECT: SEE BELOW

DATE: September 13, 2017

Approved D. DSyL

Date 9/25/17

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 January 2017 through June 2017.

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[1] (RWF) by highlighting key accomplishments during the second half of fiscal year 2016-2017 to the Transportation and Environment Committee (T&E), the Treatment Plant Advisory Committee (TPAC), and 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 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 2017-2021 adopted CIP included funding in the amount of $971 million, of which approximately $825 million was for construction. To provide visibility and accountability

[1] *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.*

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 it focused on progress and activities from July 2012 through December 2012. Three subsequent semiannual reports were published in October 2013, April 2014, and October 2014. With the establishment of the Stantec (formerly MWH Americas) and Carollo program management team, CIP staff created a new monthly CIP status report to provide more frequent and time-relevant updates. The first CIP monthly status report was issued in April 2014 and 39 monthly reports were issued through June 2017. This semiannual status report highlights key program and project accomplishments from January 2017 through June 2017, and serves to complement the monthly reports. Copies of the monthly reports are available at http://www.sanjoseca.gov/Archive.aspx?AMID=190.

ANALYSIS

Significant progress was made in several program areas from January 2017 through June 2017.

A. *Owner-Controlled Insurance Program (OCIP)*
In June, Council approved the purchase of insurance products needed to implement an OCIP for the RWF CIP to provide coverage for $535 million of construction costs over the next five years. The insurance products purchased include commercial general/excess liability, workers' compensation, builder's risk, pollution liability, and owners' professional liability policies. With assistance from Alliant Insurance Services, who are providing administrative and claims services, staff anticipates OCIP coverage to begin in fiscal year 2017-2018.

B. *Recruitments*
Filling vacant entry and mid-level engineering and technical support positions to help deliver the CIP continued to be a high priority. Between January 2017 and June 2017 staff filled 13 positions—a senior engineer, four sanitary engineers, two engineers, three senior engineering technicians, two associate engineering technicians, and an office specialist. It has been more difficult to recruit seasoned professionals for senior and principal vacancies. In the next six months, staff will continue to focus on filling the remaining engineering and construction management positions that support the delivery of CIP projects.

C. *Financing*
In April, the City's Finance Department advertised for bank support of a commercial paper program or revolving line of credit for up to $300 million to bridge the gap between cash funding and long-term financing in the form of bonds for the RWF CIP. Staff anticipates seeking Council approval of a short-term financing program for San José in fall 2017. In May, staff presented an update to T&E on the status of obtaining State Revolving Fund loans and establishing the short-term financing program. Staff has since

been informed by the State Water Resources Control Board that San José's loan applications will not be considered at this time, but may be considered in the future.

Other notable developments during this reporting period include the following.

- In February, CIP staff hosted the program's fourth open house to increase vendor awareness of CIP projects and upcoming procurements. The event focused on three design-build projects and their associated procurements. Nearly 70 consultants, contractors, material and equipment suppliers attended the event.
- In May, Council awarded a master consultant agreement for industrial hygienist services. The consultant will provide hazardous materials investigating, testing, and reporting.

On the project delivery front, 25 active projects progressed through various stages of the project delivery model.

A. *Feasibility/Development Highlights*

Fourteen projects were in the feasibility/development phase during the second half of fiscal year 2016-2017. Key activities completed during this period include the following.

- The **Aeration Tanks Rehabilitation**, **Digested Sludge Dewatering Facility**, and **Filter Rehabilitation**, and **Nitrification Clarifiers Rehabilitation** project teams analyzed alternatives.
- **Facility-Wide Water Systems Improvements**: The consultant began conducting condition assessments of the RWF's four water systems and hydraulic modeling.
- **Headworks Improvements and New Headworks** (progressive design-build): The project team advanced the basis of design report. In May, the City advertised an RFQ to procure a design-builder.
- **Lagoons and Drying Beds Retirement**: After assessing the project's scope and schedule, staff recommended a modified, lower cost solution that will utilize operations and maintenance (O&M) resources to empty the lagoons. The project was dropped from the CIP.
- **Outfall Bridge and Levee Improvements**: Staff completed scoping the project in February. The project will replace the pedestrian bridge at the RWF's outfall weir, reinforce the RWF's outfall weir, and replace an electrical transformer.
- **Support Building Improvements**: Council awarded a master consultant agreement in January. The consultant will first focus on the improvements to the fire life safety and heating, ventilation and air conditioning systems due to their criticality. Condition assessments of these systems are anticipated to start in summer 2017.
- **Tunnel Rehabilitation**: Staff completed scoping the project in March and advertised a RFQ to procure a design consultant in June.
- **Yard Piping and Road Improvements** (progressive design-build): Staff issued an information memo to Council on the decision to use progressive design-build as the project delivery method in March. Staff advertised a RFQ for owner's advisor services in April and began evaluation of the statements of qualification

submitted in response to the RFQ in June. The selected consultant will develop a basis of design report and prepare the design-builder procurement documents after conducting condition assessments of the various RWF process pipes and roads.

B. *Design Highlights*

Three projects were in the design phase during the second half of fiscal year 2016-2017. Key activities completed during this period include the following.

- **Advanced Facility Control & Meter Replacement**: The design consultant completed the 10 percent design in April and submitted the 50 percent design for review in June.
- **Blower Improvements**: The design consultant completed the 30 percent design in May and began incorporating value engineering recommendations in June.
- **Cogeneration Facility** (progressive design-build): The design-builder finalized the basis of design report and 30 percent design, and submitted proposals for two early work packages. In May 2017, the City Manager approved the first early work package, valued at $24.4 million, to procure four engine generators and gas treatment equipment, which require significant time to manufacture and deliver. The second early work package, consisting of site preparations and foundation construction work, was submitted for staff review in June 2017 and is anticipated to be approved in fall 2017.

C. *Construction Highlights*

Eight projects totaling more than $147 million were in construction during the second half of fiscal year 2016-2017 (see Attachment A). Two of the eight projects are being delivered using the low-bid design-build method, with the remaining six projects being delivered using the design-bid-build delivery method. Two projects reached beneficial use during this period. The remaining projects all progressed well, although some encountered delays due to unforeseen conditions and complex shutdowns. In particular, numerous unforeseen conditions and operational interfaces have been encountered on the largest RWF CIP project; the Digester and Thickener Facilities Upgrade.

Key activities completed during this period include the following.

- **Fiber Optic Connection**: The project reached beneficial use in mid-January, one month ahead of schedule. This project extended the City's fiber optic network from Zanker Road and Highway 237 to the RWF, enabling the RWF to switch to a more reliable connection. Project acceptance is expected in summer 2017.
- **Digester Gas Compressor Upgrade** (low bid design-build): After starting functional testing of the automation controls in January, the project reached beneficial use in late April. The contractor began resolving punch list items in May. Project acceptance is expected in fall 2017.
- **Emergency Diesel Generators** (low bid design-build): During this period, the contractor performed several tests to verify that the new generators operated automatically correctly. In March, the contractor successfully completed an eight-hour load test for all four new generators. This test is also referred to as a "black

start" as a power loss event was simulated. The new generators successfully started up and re-energized the RWF in 41 seconds. This test was followed by "island mode" tests in which the new generators supplied the RWF with electrical power without power from PG&E. Through June, construction was 86 percent complete. The project is expected to reach beneficial use in summer 2017.

- **Construction-Enabling Improvements**: The rainy winter season limited the amount of work that could be done and resulted in some delays. Between March and June, the contractor paved and striped the portion of Zanker Road that was widened to improve access for future construction traffic entering the RWF. The contractor has taken longer than expected to construct and deliver the construction management trailers. The trailers are expected to be installed and furnished by fall 2017. Through June, construction was 56 percent complete. The project is expected to reach beneficial use in fall 2017.
- **Iron Salt Feed Station**: The contractor completed the concrete footings, slabs, and walls for the polymer station in April. In May, the contractor installed the polymer and ferric chloride tanks and mechanical equipment, including pumps and piping. Through June, construction was 55 percent complete. The project is expected to reach beneficial use in fall 2017.
- **Plant Instrument Air System Upgrade**: Between January and February, the contractor potholed the site as part of a subsurface investigation program to identify any conflicting underground utilities not previously identified that needed to be relocated. The relocation and installation of underground utilities was completed in May. In June, the contractor completed pouring the concrete foundation for the new building's walls and installed rebar for the new building's floor. Through June, construction was 28 percent complete. The project is expected to reach beneficial use in spring 2018.
- **Digester and Thickener Facilities Upgrade**: The contractor made significant progress during this period. In March, the contractor poured the concrete floors for two of the four digesters in the project scope, prepared the foundation of the new sludge screening building, and continued relocating utilities. In May, the contractor also continued the structural rehabilitation of the digesters and began foundation work for the elevated pipe rack that will carry digester gas to the Cogeneration Facility. In June, the contractor completed most of the concrete work inside the digesters and began working on the sludge storage tank for the new sludge screening building.

This is one of the most complex projects in the CIP, with a large footprint that affects multiple areas of the RWF, with the bulk of construction activity occurring in the center of the RWF. Since construction started in June 2016, the project team has coordinated more than 90 process shutdown requests with O&M staff, who play an important role in planning, scheduling, and implementing the shutdowns. These requests have had a major impact on O&M staff who have to maintain the RWF operations while implementing the shutdowns.

In February, the project team completed a detailed inspection of the primary effluent pipelines near a previously identified, heavily corroded 78-inch concrete pipeline. This effort required a major shutdown that involved stopping all flow through the RWF for up to four hours, to allow inspections to proceed. Staff confirmed significant hydrogen sulfide corrosion of the pipe crowns and wye junction structure far greater than had been anticipated. Repair of the 78-inch line and wye structure is needed to allow project's construction to continue. Since the inspection was completed, staff has evaluated options to repair the pipes and wye structure during the 2018 dry weather season as a change order. The repairs will require temporary bypass pumping and piping for the extended shutdown.

Extensive staff efforts also continued to address and minimize the impacts from many other unforeseen conditions encountered. These other unforeseen conditions include multiple utility conflicts resulting in relocations, removal, and abandonment of pipelines as well as design changes for the foundation of the new sludge screening building and pipe rack. Once excavation started, it became apparent that existing record drawings and information regarding buried utilities did not fully reflect actual site conditions. Despite creating over a hundred potholes while the project was being designed and performing condition assessments of utilities where possible, the project team has encountered far more conflicts than anticipated. Staff does not expect the utility conflicts to be limited to this project. To mitigate it, project teams are conducting earlier and more extensive subsurface investigations and condition assessments. Project teams are also coordinating with the RWF's geographic information system (GIS) group to ensure new information is accurately captured for future projects.

Additionally, unanticipated hazardous materials, including asbestos, lead, and polychlorinated biphenyls (PCBs), have been identified and are being mitigated. The contractor began the safe removal of PCBs discovered in the caulking of the four digesters as well as the expansion joints of the walls and floors of six dissolved air flotation thickener tanks in May. Similar to the lead discovered in the first half of fiscal year 2016-2017, staff could not have identified the presence of these hazardous materials prior to construction without causing significant disruptions to the RWF's operations.

Another unforeseen delay encountered during this period impacted the digester gas bypass construction. Initially, the bypass connection was planned to be constructed with minimal temporary gas bypass piping and carried out with controlled atmospheric venting; however, during final negotiations with the Bay Area Air Quality Management District (BAAQMD), BAAQMD instructed the City to change the planned system and implement a system that passed all gas through the existing permitted abatement devices.

These unforeseen conditions will result in some delays and additional costs. The

current delay to the beneficial use date is forecasted to be four months. Staff will continue to evaluate the impacts and will provide additional updates as more information becomes available. Through June, construction was 23 percent complete. The project is expected to reach beneficial use in summer 2020.

- **Headworks Critical Improvements**: After rejecting all bids received in December 2016 and rebidding the project in March, Council awarded the construction contract for the project in May. In June, staff held a pre-construction meeting with the contractor and issued the notice to proceed. Through June, construction was 13 percent complete. The project is expected to reach beneficial use in summer 2018.

There were no reportable incidents to the State's Division of Occupational Safety and Health (Cal/OSHA) during the second half of fiscal year 2016-2017.

Staff expects to achieve the following during the first half of fiscal year 2017-2018.

- Obtain Council approval to implement short-term financing.
- Issue a Notice of Determination whether additional system integrators are prequalified.
- Advertise a request for proposals (RFP) to the shortlisted prospective design-builders for the Headworks Improvements and New Headworks project.
- Advertise a RFQ to procure a design-builder for the Digested Sludge Dewatering Facility project.
- Obtain Council approval to award a master consultant agreement for the Yard Piping and Road Improvements project.
- Continue design on three projects: Cogeneration Facility, Advanced Facility Control and Meter Replacement, and Blower Improvements.
- Initiate two projects: RWF Flood Protection and RWF Stormwater Improvements.
- Complete a flow management study of the RWF.
- Start construction for the Cogeneration Facility project's second early work package.
- Negotiate the definitive contract amendment for the Cogeneration Facility project, which will set the base guaranteed maximum price and schedule for the design-build work.
- Reach beneficial use on three projects: Emergency Diesel Generators, Construction-Enabling Improvements, and Iron Salt Feed Station.
- Host a ribbon cutting ceremony marking the completion of the Digester Gas Compressor Upgrade project and Emergency Diesel Generators project.
- Seek Council approval to increase the construction contingency for Digester and Thickener Facilities Upgrade to cover the multiple unforeseen conditions encountered.
- Amend a master consultant agreement with Signet Testing Labs for special inspection and material testing services for the Digester and Thickener Facilities Upgrade project.
- Amend the master consultant agreement with Stantec (formerly MWH Americas) for program management services.
- Continue to develop resource and staffing plans, particularly for the RWF's construction management group.

- Continue recruitment activities to fill CIP vacancies, particularly senior and principal positions.

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.

PUBLIC OUTREACH

This memorandum will be posted on the City's website for the October 2, 2017, T&E agenda.

COORDINATION

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

COMMISSION RECOMMENDATION/INPUT

This item is scheduled to be heard at the October 12, 2017, TPAC meeting. A supplemental memo with the committee's recommendation will be included in the amended October 24, 2017, City Council meeting agenda.

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/Ashwini Kantak for
KERRIE ROMANOW
Director, Environmental Services

\s\
BARRY NG
Director, Public Works

For questions, please contact Ashwini Kantak, Assistant Director, Environmental Services Department at (408) 975-2553.

Attachment A – Projects in Construction: January 2017 – June 2017

T&E AGENDA: 10/2/17
ITEM: (d) 2
ATTACHMENT A

Attachment A – Projects in Construction: January 2017 – June 2017

#	Project Name	Contractor	Amount Awarded	Date Awarded	Estimated Beneficial Use
1.	7100 – Digester Gas Compressor Upgrade	Anderson Pacific Engineering Construction, Inc.	Base Contract: $11,316,000 Contingency: $1,697,400	5/20/2014	4/28/2017*
2.	7394 – Emergency Diesel Generators	Anderson Pacific Engineering Construction, Inc.	Base Contract: $15,310,000 Contingency: $1,531,000	6/17/2014	Summer 2017
3.	6717 – Iron Salt Feed Station	Anderson Pacific Engineering Construction, Inc.	Base Contract: $5,205,000 Contingency: $780,750	1/26/2016	Fall 2017
4.	6970 – Fiber Optic Connection	Aegis ITS, Inc.	Base Contract: $271,692 Contingency: $40,754	5/24/2016	1/19/2017*
5.	7382 – Digester and Thickener Facilities Upgrade	Walsh Construction Company II, LLC	Base Contract: $107,925,000 Contingency: $13,490,625	5/24/2016	Summer 2020
6.	7987 – Construction-Enabling Improvements	Teichert Construction, Inc.	Base Contract: $3,135,910 Contingency: $314,000	6/21/2016	Fall 2017
7.	7617 – Plant Instrument Air System Upgrade	Anderson Pacific Engineering Construction, Inc.	Base Contract: $2,848,000 Contingency: $427,200	8/23/2016	Spring 2018
8.	8101 – Headworks Critical Improvements	C. Overaa & Co.	Base Contract: $1,499,000 Contingency: $224,850	5/23/2017	Summer 2018

* These are actual dates the contractor achieved substantial completion and the project reached beneficial use.

T & E AGENDA: 10/02/2017
ITEM: (d) 3

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: TRANSPORTATION AND ENVIRONMENT COMMITTEE

FROM: Kerrie Romanow

SUBJECT: SEE BELOW

DATE: September 20, 2017

Approved D. D Sykl Date 9/24/17

SUBJECT: CONSTRUCTION IMPACTS TO SAN JOSÉ-SANTA CLARA REGIONAL WASTEWATER FACILITY

RECOMMENDATION

Accept this report about the construction impacts to Operation and Maintenance at the San José-Santa Clara Regional Wastewater Facility.

OUTCOME

Provide information to the Transportation and Environment (T & E) Committee about impacts of various construction activities to Operation and Maintenance (O & M) at the San José-Santa Clara Regional Wastewater Facility[1] (RWF) highlighting activities for various process shutdowns, flow diversion, and startups.

BACKGROUND

The majority of the infrastructure at the RWF is well beyond its useful life. A major rehabilitation and rebuild of the RWF was envisioned to be implemented through a master plan. This was completed and subsequently adopted by the San José and Santa Clara City Councils in 2013. The Plant Master Plan (PMP) identified more than 100 capital improvement projects totaling over $2.1 billion to be implemented at the RWF over the next 30 years. In 2014, the City hired MWH Americas (now Stantec) to assist with setting up and managing the Capital Improvement Program (CIP). A project validation process analyzed the master plan projects, and prioritized and packaged them into 33 projects based on criticality, condition of the infrastructure, project interfaces, and sequencing. Twenty-five projects have been initiated;

[1] *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.*

sixteen of these projects are in various stages of design; seven of them are currently in construction; and two have been recently completed.

ANALYSIS

Successful implementation of a CIP, inside an active wastewater treatment plant, requires significant participation and feedback from O & M in order to effectively rebuild the RWF without disruption to plant operations. The vast number of CIP projects and the upcoming construction activities at RWF are not part of a normal process at any wastewater facility. It will continue to impact day to day wastewater treatment processes and involve significant O & M staff participation.

The sections below discuss how O & M staff have been collaborating with various CIP groups, preparing to take on new processes and equipment, facilitating various process shutdowns, and preparing for future staff resources.

Staff Engagement Plan:

In order to strategize for successful O & M involvement, program management staff prepared a detailed staff engagement plan for CIP projects. This plan developed project specific O & M team concepts, which consisted of subject matter experts (SME) and lead subject matter experts (LSME) from various O & M groups. Furthermore, the plan developed various types of estimates for staff involvement at various stages of CIP projects, provided an outline for decision making and conflict resolution, procedures for various types of process shutdown requests and approvals, project close out and acceptance processes. This engagement plan has proven very successful in ensuring O & M staff participation for design, equipment selection, value engineering, decision making, planning and carrying out of numerous process shutdowns/diversions, and dealing with unanticipated field conditions. Staff also made a presentation about this engagement plan at the Annual 2016 CEWA Conference and received positive feedback from members of various wastewater agencies for its inclusiveness and decision making process.

Readiness for new process and equipment:

Most of the projects involve rehabilitating or replacing existing infrastructure and various treatment processes. These projects will replace existing antiquated equipment with modern equipment that utilizes state of the art technology and control systems. This will enable the process to be more efficient, stable, and reliable. In addition, all necessary information about the process, such as operations manuals, operating procedures, training videos, instruction materials, and maintenance information about various equipment will be readily available through electronic documentation, various technologies, and equipment. Modern technologies will also allow the system performance to be tracked continuously and data can be stored electronically.

This will transform the current maintenance practices into a more predictive maintenance program. The recently completed Digester Gas Compressor and Emergency Diesel Generator Projects are good examples of such installations. Staff received extensive hands on training on various maintenance activities of the equipment at the factory and onsite, and successfully commissioned the equipment. Facilities Distributed Control System (DCS) will be connected to various data points for the performance monitoring and controls. All O & M documents along with all the training materials are delivered to the City electronically.

Project Shutdown Review (PSR) and Approval Process:

The projects are built in and around active wastewater treatment process areas and require numerous process shutdowns and flow diversions. This requires staff participation from various O & M groups, especially the Wastewater Operations Division. Staff has developed a very detailed shutdown tracking log which tracks all plant shutdowns requests for various CIP projects and are accessible by all RWF staff. It also includes all planned current and future major maintenance shutdowns of various process areas, and all planned future shutdowns for various CIP projects. The two-member shutdown coordination team continuously works with various CIP and O & M project groups to optimize various shutdown activities. In FY2016-2017, staff successfully completed 127 shutdowns and these numbers are expected to increase in the next few years.

Major construction for large projects at the RWF commenced in June 2015. Seven projects were still in process as of June 2017. The Digester and Thickener Facilities Upgrade Project is the largest project, and continues to progress quickly with numerous shutdowns and flow diversions that involve active participation and coordination of O & M groups. The Emergency Diesel Generator and Digester Gas Compressor projects went through numerous startup and commissioning activities throughout the summer and are expected to be completed in fall 2017. Other active projects, such as the Plant Instrument Air System Upgrade, Construction Enabling Improvements, and Iron Salt Feed Stations are in various stages of construction and are expected to be completed and commissioned soon.

Condition assessment activities associated with various design projects, such as the Nitrification Clarifier Rehabilitation, Aeration Tanks Rehabilitation, Filter Rehabilitation, and Blower Improvements required numerous shutdowns of active process areas in order to inspect various equipment, process piping, support structures, underground tanks, and electrical and communication infrastructures.

Appendix A includes a detailed analysis of staff involvement in various types of project shutdown requests and approval processes and also a short list of various PSRs for the past, current and future by Fiscal Years (FY).

Annual Operating Plan:

The RWF annual operations plan is updated every year based on the anticipated flows and loads, planned shutdown of various process areas for major maintenance activities, and anticipated/planned shutdown activities from various CIP projects. The PSR log provides the core of the information for various shutdowns to the annual operating plan. Another important section of this plan is the Unit Process Isolation Table which includes information on hydraulic and process capacities of various unit process areas. The information on this table helps engineers get valuable information for future project designs.

Preparing for future staff resources:

Activities associated with various shutdown, diversion, or startup activities require experienced O & M staff who are primarily in lead positions for various process areas and hold a supervisory role. Activities involving various CIP projects strain the capacity to provide day to day leadership and guidance to various process areas. In order to address this, budget proposals for 2016-2017 and 2017-2018 included ramping up staffing levels in various O & M groups at the entry levels. This will create opportunities for introducing new staff into the O & M workforce and free up supervisors to participate in construction related activities. FY 2016-2017 budget proposals included the addition of one Wastewater Operator, one Industrial Electrician, two Instrument Control Technicians, and one Senior Process Control Specialist. The 2017-2018 budget proposals included the addition of three Wastewater Operators. A comprehensive training program for new Operators and Wastewater Mechanics is already in place. Fourteen Wastewater Attendants and eight Operator in Training staff are currently undergoing the training program for various O & M positions.

EVALUATION AND FOLLOW-UP

Staff will continue to track impacts from construction activities and will bring information back to the T & E Committee as appropriate.

PUBLIC OUTREACH

This memorandum will be posted on the City's website for the October 2, 2017 T & E Committee meeting.

COORDINATION

This memorandum has been coordinated with Public Works Department.

COMMISSION RECOMMENDATION/INPUT

This item is scheduled to be heard at the October 12, 2017, Treatment Plant Advisory Committee meeting. A supplemental memo with the committee's recommendation will be included in the amended October 24, 2017 City Council meeting agenda.

CEQA

Not a project, File No. PP10-069(a), Staff Reports / Assessments / Annual Reports / Informational Memos that involve no approvals of any City actions.

/s/
KERRIE ROMANOW
Director, Environmental Services

For questions, please contact Amit Mutsuddy, Deputy Director, at (408) 635-2007.

Appendix A

Process shutdowns and startup activities are primarily of three types: **Major Shutdowns, Minor Shutdowns, and Startups and Commissioning.** These can be further broken into subgroups depending on whether it will involve interruption to wastewater treatment process. Efforts from O & M staff are varied depending on process interruption or not.

***Major shutdowns** (involves process interruption):*

- Requires three to four prep meetings with various O & M staff, Contractor, Designer, and Construction Managers
- 40 to 50 hours of field investigations by operators and various maintenance staff
- Additional staff coverage during shutdown/flow diversion (six additional operators on overtime for a single 8 to 10 hour shutdown activity)
- At least one trial run followed before the actual shutdown

***Major shutdowns** (does not involve process interruption):*

- May require two to three preparatory meeting with various O & M Staff, Contractor, Designer and Construction Managers
- 30 to 40 hours of field investigations by various O & M staff
- One trial run followed by actual shutdown
- Additional staff coverage during shutdown (three O & M staff for 4 to 6 hours on overtime for one shutdown activity)

***Minor Shutdowns**:*

- Requires one or two preparatory meetings with one shutdown
- 4 hours staff time during shutdown

Minor Startups and Commissioning:

- Requires three to four prep meeting with various O & M Staff, Contractor, Designer, and Construction Managers
- Additional staff coverage (six additional operators on over time for one four hour shutdown activity)

***Major Startups and Commissioning for Process**:*

- Start up and commissioning activities takes place over at least 30 to 45 days with multiple prep meetings, training, and troubleshooting new equipment and controls
- Additional staff for all full shifts coverage are needed during this period

Project Shutdown Request (PSR) activities that were completed in last FY 2016-2017:

Completed Shutdowns:

- Minor and Major PSR: 127 submitted and completed
  - Major – 48 submitted and completed
  - Minor – 79 submitted and completed

Project Shutdown Request (PSR) activities that were completed and submitted in FY 2017-2018

- FY 2017-2018 (As of 9/7/17) – Minor and Major PSR: 52 submitted, 41 completed
  - Major – 22 submitted (14 completed)
  - Minor – 30 submitted (27 completed)

Major Anticipated Shutdowns in FY 2017-2018

*The following list includes anticipated **major** shutdowns with varied levels of certainty. Further details and sequencing to be determined*

1. Aeration Tank Rehabilitation
   i. Summer 2018 – Potential inspection of Secondary Biological Nutrient Removal (BNR) of Process 1 tunnel secondary effluent piping
   ii. Winter/Summer 2018 – Potential additional condition assessments

2. Digester Thickener Facilities Upgrade
   a. Secondary Effluent (SE) Isolation Structure
      i. Fall 2017/Spring 2018 - Destruction of existing A/B isolation structure
      ii. Fall 2017/Spring 2018 - Lower Final Effluent Pump Station (FIPS) well level or shutdown a portion of BNR1 to enable construction of new line
      iii. Fall 2017/Spring 2018 - Construct 2 new isolation structures

   b. 78" SES Bypass
      i. Spring 2018 - Install isolation plate at East Primary Effluent Junction Box
      ii. Spring 2018 - Shutdown of East Primaries Battery B & D
      iii. Spring 2017 - Operation of West Primaries
      iv. Winter 2017 - Connection of bypass system to Settled Sewage Pump Station discharge lines
      v. Winter 2017 - Shutdown and modifications to East primary tank A4 or A5 to site bypass pumps
      vi. Winter 2017 – Several minor PSRs related to utility and conduit reroutes for site excavation

c. Digester Gas (DG) Bypass
    i. Fall 2017 - Connection to temporary bypass system
    ii. Spring/Summer 2018 – Individual digester connection to new bypass system (temporary outages of gas mixing, sludge heat exchanger, etc.)

d. Digester 1-4 Decommissioning
    i. Fall/Winter 2017 – Potential PSRs from decommissioning equipment and connections to Digesters 1-4 (electrical, mechanical, piping, etc.)

3. Headworks Critical Improvements
    i. Winter 2017 – Electrical equipment shutdowns at Emergency Basin Overflow Structure (EBOS), Headworks 2, and California structure
    ii. Spring 2018 – Headworks 2 channel shutdowns for bar screen replacements
    iii. Winter 2017/Spring 2018 – EBOS shutdowns for gate construction

4. Iron Salt Feed Station
    i. Fall 2017 – Potential PSR's related to equipment start-up testing

5. New Headworks
    i. Fall 2017 - Interceptor 1 Inspection
    ii. Spring/Summer 2018 - Potential Headworks piping inspections (84" RS line from EBOS to Headworks 1, 120" RS line from EBOS to Headworks 2, and other miscellaneous piping)
    iii. Spring/Summer 2018 – Potential inspections/assessments of Headworks structures

6. Plant Instrument Air
    i. Spring 2018 – Connections to RWF high pressure air system
    ii. Spring 2018 – PSR's related to equipment start-up testing

Major Anticipated Shutdowns in FY 2018-2019

This list includes anticipated shutdowns with low levels of certainty. Further details and sequencing to be determined.

1. Advanced Facility Metering & Control
    i. Primary Sludge Meter Replacement
    ii. BNR1 A Side RAS Meters replacement
    iii. BNR1 B Side RAS Meters replacement
2. Cogeneration Facility
    i. Fall 2018 - Potential PSR's related to utility reroutes and connections
    ii. Fall 2018 - Potential PSR's for pipe rack connections (Natural Gas (NG), Blended Gas (BG), Heat loop, Space heat, etc.)

iii. Spring 2019 – Potential PSR's for equipment start-up testing

3. Digester Thickener Facilities Upgrade
    i. Fall 2018 – Potential PSR's from Pipe Rack Construction and Connections to existing systems (NG, BG, Digester Gas (DG), Heat loop, etc.)
    ii. Fall 2018/Spring 2019 – Potential PSR's from connecting Digesters 5-8

4. Nitrification Clarifiers
    i. Spring/Summer 2019 - Potential PSR's related to equipment replacement and construction within BNR2 clarifiers
    ii. Spring/Summer 2019 - Potential PSR's related to clarifier RAS line construction

T & E AGENDA: 10/02/2017
ITEM: (d) 4

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: TRANSPORTATION AND ENVIRONMENT COMMITTEE

FROM: Kerrie Romanow

SUBJECT: SEE BELOW

DATE: September 19, 2017

Approved D-DSyC Date 9/24/17

SUBJECT: WASTEWATER FLOW PATTERN CHANGES AT THE SAN JOSE-SANTA CLARA REGIONAL WASTEWATER FACILITY

RECOMMENDATION

Accept this report about the wastewater influent and effluent flow pattern changes at the San José-Santa Clara Regional Wastewater Facility.

OUTCOME

Provide information to the Transportation and Environment Committee about the changes in the wastewater flow pattern at the San José-Santa Clara Regional Wastewater Facility[1] (RWF) when mandatory water conservations were in place and to discern potential impacts of reduced wastewater flows.

BACKGROUND

The RWF is the largest advanced wastewater treatment facility in the western United States, serving a population of 1.4 million people and over 17,000 businesses across eight cities and the County. The RWF currently has the capacity to treat average dry weather flow of 167 Million Gallons per Day (MGD) and a wet weather flow capacity of 261 MGD. The RWF operates under a National Pollutant Discharge Elimination System (NPDES) permit under the Clean Water Act, administered by the Regional Water Quality Control Board. The permitted average dry weather inflow is 167 MGD. Average dry weather flow is determined by averaging three consecutive dry weather months from May 1 thru October 31 each year. In addition, average dry

[1] *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.*

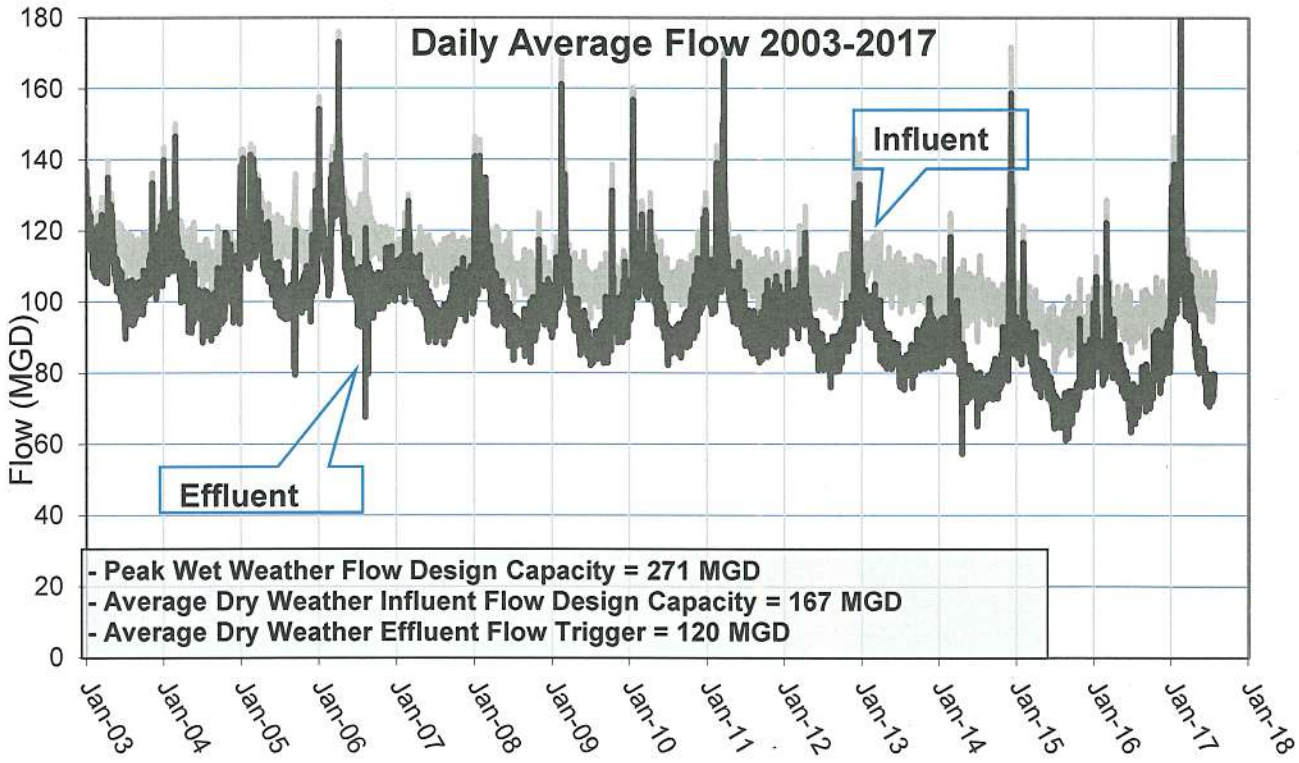
weather effluent flow equaling or exceeding 120 MGD will trigger implementing measures to reduce effluent flows as identified in the South Bay Action Plan.

The design average daily wet weather capacity of the Facility is 261 MGD, and there is no cap on average daily wet weather effluent flow. About 15 percent of the final effluent flow is diverted to South Bay Water Recycling (SBWR) flow.

ANALYSIS

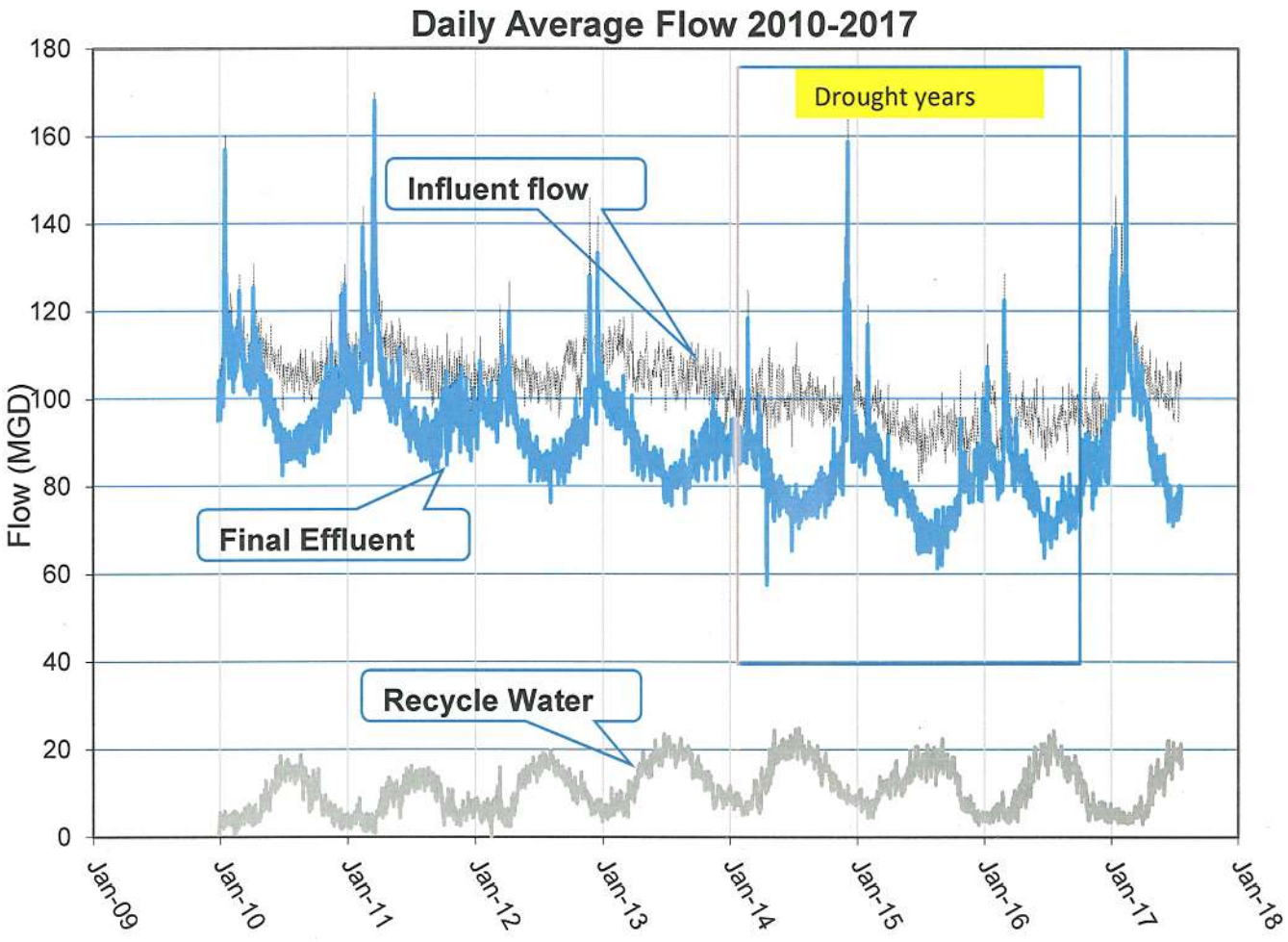
For the last several years, the average daily dry weather influent flow to the RWF has been around 100 MGD, and effluent flow to the bay has been around 80-85MGD. These numbers are well under permitted flows mentioned above. Moreover, wastewater influent flows to the RWF have been in a steady decline over the last few years. This may be attributed to ongoing water conservation efforts, growing use of water efficient appliances and faucets, lower than average rainfall in the years before last winter, and steady decline of industrial discharge.

Drought state of emergency was declared by the Governor on January 2014, and it ended on April 17, 2017. Mandated water conservation resulted in 28 percent water conservation for residents and business in the valley. Lower than usual rainfall also lowered ground water table and lower water levels in the creeks and rivers of the valley which results in minimal inflow infiltration into the sewer collection system.



Average influent, effluent and recycle water production during summer months (May through October) is summarized in the table below. It is important to note that during the drought years, when effluent flow to the bay was the lowest, recycled water demand was the highest.

Year	Average daily influent flow (MGD)	Average daily effluent flow (MGD)	Average daily recycle flow (MGD)
2013	106.7	84.1	18.0
2014	100.4	77.2	18.6
2015	92.2	72.4	15.9
2016	95.4	75.7	16.2



Impacts of lower flow to the collection system and Facility Headworks

Eighty percent of the sanitary sewer influent flow to the RWF is conveyed via large diameter sewer pipes (major interceptors) which were designed for much higher flows. Although the number of recorded Sanitary Sewer Overflows (SSO) in the sanitary sewer collections system for San José have been on the decline for several years now, continued lower flow during dry months can result in buildup of solids and grease in the interceptor pipes, resulting in lowered capacity during winter months, higher solids load to the Facility, and possible blockages to the Facility's headworks bar-screens during the first major winter storm.

In addition, SB 740 introduced by Senator Scott Wiener in February 2017, will require local agencies to develop standards for onsite treatment of wastewater for non-potable use. The primary source of water for onsite treatment includes graywater, rainwater, condensate, foundation drainage. Implementation of such efforts may even lower the future sanitary sewer flow into the collection system. This bill is expected to be in effect by December 1, 2018.

Lower trends in wastewater influent flows means the hydraulic capacity improvement projects associated with peak dry weather and extreme peak wet weather flows identified in the Plant Master Plan for RWF may be pushed out few more years. In addition, since the final effluent flows are trending much lower than the 120 MGD trigger point from the current NPDES permit for the RWF, there are no immediate drivers to implement the South Bay Action Plan.

EVALUATION AND FOLLOW-UP

Staff will continue to track changes in wastewater inflow and effluent flow pattern changes and will bring back information to the committee as appropriate.

PUBLIC OUTREACH

This memorandum will be posted on the City's website for October 2, 2017 Transportation and Environmental Committee agenda.

COORDINATION

This memorandum has been coordinated with Public Works Department.

COMMISSION RECOMMENDATION/INPUT

This item is scheduled to be heard at the October 12, 2017 Treatment Plant Advisory Committee meeting. A supplemental memo with the committee's recommendation will be included in the amended October 24, 2017 City Council meeting agenda.

CEQA

Not a Project, File No. PP10-069(a), Staff Reports / Assessments / Annual Reports / Informational Memos that involve no approvals of any City actions.

/s/
KERRIE ROMANOW
Director, Environmental Services

For questions, please contact Amit Mutsuddy, Deputy Director, at (408) 635-2007.

T&E AGENDA: 10/02/2017
ITEM: (d) 5

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: TRANSPORTATION & ENVIRONMENT COMMITTEE

FROM: Kerrie Romanow

SUBJECT: SHORELINE LEVEE UPDATE

DATE: September 18, 2017

Approved D. DSyL Date 9/24/17

RECOMMENDATION

Accept this status report on the construction of the Shoreline Levee and progress on discussions with the Santa Clara Valley Water District on the transfer of Pond A18.

OUTCOME

Provide an update to the Transportation and Environment (T&E) Committee on construction of the Shoreline Levee that will protect the Alviso area, including the San José-Santa Clara Regional Wastewater Facility[1] (RWF), from sea level rise and subsequent tidal inundation, and the in-kind contribution of Pond A18 for restoration elements of the project.

BACKGROUND

Shoreline Study Overview

The Shoreline Levee Study is a congressionally authorized study by the U.S. Army Corps of Engineers (USACE) together with the Santa Clara Valley Water District (SCVWD) and the State Coastal Conservancy (SCC) to identify and recommend flood risk management and ecosystem restoration projects along South San Francisco Bay for federal funding. Within the South Bay region, the Alviso area was identified as the project's first phase, because of high potential for flood damage, including damage to homes, businesses, and the RWF. Phase One of the Shoreline Levee Study proposes to build a new flood-protection levee along existing salt pond levee alignments, including the RWF's Pond A18. The SCVWD and SCC are local partners in the project. This project has also been recognized for its importance in preserving the economic development potential of the region.

[1] *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.*

Pond A18 and the Plant Master Plan

The purchase of Pond A18 for $13.5 million was approved by the Treatment Plant Advisory Committee (TPAC) and the City Council in May 2003, for the following purposes:

- Increased buffer area, which provides the benefit of buffering RWF operations from adjacent land uses
- A measure of control over the uses of Pond A18 and activities in and around the area immediately to the north of existing RWF property
- Increased City influence and input into the Federal and State planning for salt pond restoration projects in areas immediately north of the RWF.

Following the purchase of Pond A18, the Environmental Services Department (ESD) contracted with a team of consultants with a goal of identifying a future use for Pond A18 for inclusion in the Plant Master Plan (PMP). The following eight land use opportunities for Pond A18 were analyzed in the report:

1. Tidal marsh restoration
2. Flood protection improvement – South San Francisco Bay Shoreline Levee Study
3. Wetlands Mitigation banking
4. Pulsed-discharge wastewater wetlands
5. Conventional wastewater wetland (not pulsed-discharge)
6. Managed pond for shorebirds
7. Relocate/expand biosolids lagoons and drying beds
8. Public access and environmental education

The opportunity to use Pond A18 for flood protection as part of the Shoreline Levee Study was identified as the only alternative having a net positive impact on all of the PMP project goals except habitat protection and restoration. However, even with a net negative impact identified for habitat protection and restoration, due to levee relocation impacts on wetlands and open water, it was identified that improved flood protection would be integral to a number of other habitat restoration opportunities (including tidal marsh restoration in Pond A18). The possibility for Federal, State and Local cost share for this alternative was also identified as an opportunity.

The General Plan Envision 2040 identified that the City must provide protection up to the latest FEMA magnitude 500-year flood to control for tidal and fluvial (riverine) floods and sea level rise. While the RWF is not required, as part of the environmental mitigation plan in the PMP Environmental Impact Report, to mitigate sea level rise because it is an existing condition and not an impact attributable to the CIP, the PMP still refers to the Shoreline Levee study that is anticipated to address potential sea level rise. The City must also provide the RWF protection up to the magnitude 100-year flood for protection against the Lower Coyote Creek and Lower Guadalupe River flooding and should the coastal protection barriers fail. The RWF is currently developing a flood protection project to construct an elevated ring levee around critical elements of the RWF for 100-year flood protection.

ANALYSIS

ESD staff have been actively involved in ongoing project coordination and stakeholder meetings that include the funding agencies, the property owners, and the permitting agencies, like the San Francisco Bay Regional Water Quality Control Board (Regional Board) and the Bay Conservation and Development Commission (BCDC). The RWF has maintained a high level of support and a high degree of flexibility as to where the funding agencies ultimately place the final levee alignment.

The RWF is a critical piece of public infrastructure in the Shoreline Levee Study area, and the City is an important partner in the success of the project. In order to facilitate the completion of the Shoreline Levee Study project that ensures the RWF is protected from sea level rise tidal inundation, the RWF has committed to transferring its property interest in Pond A18, and potentially a small portion of the RWF's legacy biosolids lagoons. This will enable the local partners to permit filling the southern edges of the pond for construction of the ecotone and levee, provide construction staging areas, and eventually implement salt marsh restoration in Pond A18 after the levee is constructed.

As of 2016, the Shoreline Levee Project's total estimated cost was $173.9 million. Of this amount, the USACE's total estimated contribution is $69.5 million, while the total combined estimated contribution for SCVWD and SCC is $104.4 million. In transferring the Pond A18 property that was purchased by the RWF for $13.5 million, the RWF would not be required to secure or contribute additional funds towards the cost of constructing the levee or restoring the salt marsh. Other sea-level-rise protection projects in the region are projecting costs of approximately $24 million per linear mile, while in-kind contribution of the pond, using its purchase price, would equate to a cost of approximately $6.9 million per linear mile for the RWF. Moreover, the local partners would ultimately assume the responsibility of complying with any regulatory and other legal obligations for the Pond, including, but not limited to, ongoing operation and maintenance for the Pond and levees. The current annual Operation and Maintenance Costs for Pond A18 are estimated to be $100,000.

The RWF currently operates Pond A18 under permit requirements from the Regional Board. Due to delays in getting state and federal approvals for the Shoreline Levee to move forward towards construction, development of a Memorandum of Understanding (MOU) between the RWF and the SCVWD has also been delayed, requiring the RWF to fund costly repairs on Pond A18's two water control gate structures in order to stay compliant with its permit requirements and prevent any levee breach threats.

In October 2015, preliminary terms for a MOU were approved by TPAC and City Council and staff was directed to enter into discussions with the SCVWD. These terms included:

- Need for coordination and concurrence of the City of Santa Clara, as co-owner of the RWF.

- Confirmation that value of shoreline levee to RWF is equivalent to fair market value of the proposed property.
- Transfer of property to the SCVWD to be triggered upon award of the design contract by the USACE. However, if construction was unable to commence by January 1, 2021, the SCVWD would need to pay the RWF the fair market value of Pond A18.
- Inclusion of provisions that the levee crossing of Artesian Slough would not interfere with the RWF's current operation and preserve the RWF's current ability to discharge into the Bay as permitted under the National Pollutant Discharge Elimination System (NPDES) permit.
- If construction of the levee required investment in capital or operational costs to RWF sooner than otherwise expected, the signatories to the MOU would equitably share the burden of those costs.

SCVWD has indicated it cannot begin negotiation on the transfer of real estate until the USACE issues a "take letter," which means that real estate has been identified by the USACE as critical to the construction of the project. Once the take letter has been issued, and the Hazardous Site Liability Assessment (HSLA) is complete on the properties that will potentially fall under or adjacent to the levee alignment, the SCVWD will have managed risk adequately to proceed with the MOU.

Based on developments since October 2015, additional terms as outlined below will need to be factored into the MOU negotiations

- Consideration of the RWF's capital expenditures for the repair of both gate structures on the pond that have occurred as a result of the delays on the levee project.

- Finalization of the levee alignment and confirmation that any costs associated with a change in alignment will be borne by the project.

- Resolution of the RWF's Waste Discharge Requirement (WDR) for the management of water quality in Pond A18. This regulatory obligation should not be the RWF's after the property is transferred, but the Regional Board has indicated that this is not an automatic action that happens concurrent to title transfer.

Next Steps

The Shoreline Levee Study completed the environmental impact review process and Feasibility Phase on December 18, 2015. The USACE received funds to start the Design Phase of the project in 2016. The USACE anticipates that the Reach 1 designs and required environmental permits for Reach 1 construction will be finalized in mid-December 2017. Pending receipt of federal funds, and state permits, the construction contract for reach 1 of the levee project is scheduled to be awarded in May 2018. Construction of reaches that will go through RWF property will begin in 2019. Staff is working with the SCVWD to develop the MOU, and anticipates returning to the Treatment Plant Advisory Committee and Council in 2018 for

approval. Final City action on any aspect of the MOU would require separate legally binding agreements, and environmental review to be completed prior to the execution of the agreements.

/s/
KERRIE ROMANOW
Director, Environmental Services

For questions, please contact Ken Davies, Sustainability and Compliance Manager, at (408) 975-2587.

T&E AGENDA: 10/02/2017
ITEM: (d) 7

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: TRANSPORTATION & ENVIRONMENT COMMITTEE

FROM: Kerrie Romanow

SUBJECT: SEE BELOW

DATE: September 19, 2017

Approved D. DSyC Date 9/24/17

SUBJECT: WILDLIFE HABITAT AT THE SAN JOSÉ – SANTA CLARA REGIONAL WASTEWATER FACILITY

RECOMMENDATION

Accept this report highlighting established wildlife habitat at the San José-Santa Clara Regional Wastewater Facility, and ongoing habitat management activities for the Western Burrowing Owl.

OUTCOME

Provide an update to the Transportation and Environment (T&E) Committee on established and managed wildlife habitat on San José-Santa Clara Regional Wastewater Facility[1] (RWF) bufferlands.

BACKGROUND

Prior to the development of major urban centers in the South Bay, marshes and grasslands surrounding the RWF's current location were known to be magnet habitat for migrating water birds, marine and freshwater fish, and Western Burrowing Owls.

Lower South San Francisco Bay, particularly the waters of Lower Coyote Creek and Alviso Slough, downstream of the City of San José, have long been identified as a nursery for marine and freshwater fish. Improved water quality, resulting from clean discharges from the RWF, combined with restored habitat made possible by the South Bay Salt Pond Restoration project (SBSP), have improved the local ecosystem, as seen by increased fish and bird populations.

[1] *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.*

Likewise, Western Burrowing Owls, a Federal and State Species of Special Concern, have been documented to nest at the RWF bufferlands for the past decade; however, numbers had declined until the City initiated habitat improvements in 2012. City staff implemented activities based on the City's Bufferlands Interim Burrowing Owl Management Plan as temporary measures until the Plant Master Plan (PMP) was adopted in November 2013. As part of the PMP's goal to improve habitat and minimize impacts to the local and global environment, it designated 180 acres as burrowing owl habitat. In 2014, the City was granted title to a 21.4-acre parcel of land by Cisco Technologies, which was added to the City's adjacent 180-acre Burrowing Owl habitat.

It is noteworthy that a regional wastewater facility, treating sewage from one-fifth of the Bay Area's population, has become a magnet for every type of creature, from tiny minnow-sized fish to bald eagles.

ANALYSIS

Since 2005, the Lower South Bay has been undergoing significant habitat changes due to the South Bay Salt Pond Restoration effort, led by the State Coastal Conservancy and with involvement from the City. The Freshwater discharge from the RWF has provided a consistent, reliable, clean, and highly oxygenated source of freshwater to the system. Salt marshes, like those envisioned to eventually replace the diked-off former salt production ponds that were owned by Cargill, are a habitat that occurs in the shallow margins of an estuary (an area where fresh water and salt water meet). Environmental health and stability of these habitats relies on both the presence of salt water (from the Bay), and an input of freshwater. Typically, the freshwater comes from rivers, creeks, or other tributaries. With the damming of local creeks and rivers to manage freshwater flows, and the recent ongoing drought reducing tributary flows and reservoir levels even further, the clean freshwater from the RWF has provided a critical role in maintaining a healthy habitat.

The City's documentation of biological abundance and diversity in the vicinity of the RWF discharge indicates that the stability of the freshwater flow creates an epicenter of biological health that surpasses other regions of the Bay and by many measures (invertebrate and fish abundance being the most notable), surpasses even adjacent areas of the Lower South Bay that are also undergoing restoration but are further away from the RWF discharge.

The City and the South Bay Salt Pond Restoration Project have contracted with UC Davis fish researchers since 2010 to evaluate fish populations in this area. Around 2013, the salt pond restoration project directed the UC Davis team to stop monitoring Artesian Slough and Coyote Creek and to focus on other areas of the Lower South Bay. The City elected to provide funding supplemental to that from the restoration project that allowed the UC Davis researchers to continue to monitor these areas and the results have indicated that we have the most abundant and diverse fish populations in the Bay, a clear indicator of the RWF's contribution to beneficial uses of the Bay. According to Dr. Jim Hobbs, the principal investigator, waters and marshes

immediately downstream of the RWF are harboring some of the densest and most diverse populations of fishes seen in San Francisco Bay.

The RWF performs this monitoring to provide assurance to ratepayers and the public that our investment in wastewater treatment, and our ongoing operations, protect all beneficial and ecological uses of Lower Coyote Creek and the Bay.

Fish abundance leads to bird abundance, and bird abundance and diversity is a key success metric for the Salt Pond Restoration effort. The number of gulls, a scavenger species that can also be destructive to more sensitive species' nesting areas, in the former salt ponds has declined dramatically, while duck abundance and diversity has increased since the ponds were opened to the Bay in 2005. This is a metric that indicates a healthier system is being restored. The RWF continuously provides clean freshwater to the system, which helps algae, invertebrates, and fish (all of which are bird food) thrive.

The combination of responsible sewage treatment and stormwater practices, the restoration of the Coyote Creek Lagoon, Coyote Creek, and Guadalupe River, and the Salt Pond Restoration Project, have all contributed to the improved habitat conditions observed today. So much wildlife resides at and around the RWF that predators, like Bald Eagles and Peregrine Falcons, have taken notice and established hunting grounds.

In 2015, the peregrine falcon named Thunder, who was hatched at City Hall in 2012, found a mate and reared chicks on a utility transmission tower over Pond A18. The falcons returned in 2016 and 2017, successfully raising one to two new chicks each year. In spring of 2016, a pair of coyotes established a den and raised puppies in the RWF "Legacy Lagoon" area. Earlier this year, a pair of bald eagles were observed hunting in the RWF sludge lagoon area. The pair nested in a tree and raised a chick in front of Curtner Elementary School in Milpitas, within easy flying distance to the RWF lagoons.

<u>Burrowing Owls</u>
Current habitat improvement and management activities by Environmental Services Department staff, the Santa Clara Valley Habitat Agency (SCVHA) and volunteers are based on the Interim Management Plan, originally developed in 2011 by Western Burrowing Owl Specialists Dr. Lynn Trulio and Phil Higgins. The SCVHA is currently in the process of finalizing a new, updated plan, but a significant departure from current strategies is not expected.

The management activities are designed to improve both foraging and nesting habitat for the owls as well as for California ground squirrels, a species the owls depend upon for quality habitat. Key factors for improving conditions for the owls have included, but are not limited to:

1. Short grass habitat (less than five inches) directly around burrows for nesting and non-nesting purposes. This provides adequate visual range for the owls to spot predators and seek cover or escape. RWF staff actively manage the grass height.

2. Longer grass habitat in large open fields to provide a habitat for Western Burrowing Owl prey, especially large insects and small rodents. Woody debris piles have been placed at intervals throughout the habitat to foster the establishment of owl prey.
3. Conditions that support a healthy, large ground squirrel population. Primarily, soil conditions need to allow burrowing mammals to burrow. The sheep and goats no longer graze on the bufferlands because they caused too much soil compaction. This change, along with thousands off cubic yards of imported soil, have allowed the ground squirrel population to rebound and dig more burrows. The added soil mounds throughout the site are approximately three feet high, and are also attractive burrowing sites because of the vantage point provided. Additionally, "move-in ready" artificial burrows were installed in many of these soil mounds.
4. Conditions that discourage predators, including little to no vegetative cover near burrows, the absence of trees or other tall perches for large birds of prey, and the absence of cat colonies.
5. Low levels of human activity near burrows. The RWF bufferlands are ideal in this sense since they are gated with no public access.

The most recent burrowing owl population survey, conducted in July 2017, identified a total of 62 owls with 33 adults and 29 chicks. The 2017 population numbers are not as high as 2016, but the wet winter delayed the onset of the breeding season, and likely suppressed this season's population. The site continues to be an ideal nesting site; due to the habitat enhancement efforts the City has undertaken since 2012. The burrowing owl population at this site has experienced significant growth and stability, while the overall trend for all sites in Santa Clara County show a continued decline, which could lead to the owl becoming locally extinct. This project is proving that a managed, coordinated effort and good science can reverse negative habitat trends.

EVALUATION AND FOLLOW UP

ESD staff will return to the T&E Committee in September 2018 to present information on wildlife habitat at the RWF, and the results of the next Western Burrowing Owl breeding season. PBCE prepares quarterly memos to T&E to report on Mitigation Monitoring and Reporting Requirements for individual projects, including for burrowing owl mitigation parcels that are required as a condition of approval of development permits.

PUBLIC OUTREACH

This memorandum will be posted on the City's website for the October 2, 2017 T & E agenda.

COORDINATION

This report has been coordinated with the City Attorney's Office and the Department of Planning, Building and Code Enforcement.

COMMISSION RECOMMENDATION/INPUT

This item is scheduled to be heard at the October 12, 2017 Treatment Plant Advisory Committee meeting. A supplemental memo with the committee's recommendation will be included in the October 24, 2017 City Council meeting agenda.

CEQA

File No. PP11-043, Environmental Impact Report for the San José/Santa Clara Water Pollution Control Plant Master Plan.

/s/
KERRIE ROMANOW
Director, Environmental Services

For questions, please contact Ken Davies, Sustainability and Compliance Manager, at (408) 975-2587.

City Manager's Contract Approval Summary

For Procurement and Contract Activity between $100,000 and $1.08 Million for Goods and $100,000 and $270,000 for Services

SEPTEMBER 1 - SEPTEMBER 30, 2017

Description of Contract Activity [1]	Fiscal Year	Req#/ RFP#	PO#	Vendor/Consultant	Original $ Amount	Start Date	End Date	Additional $ Amount	Total $ Amount	Comments
SANDBLASTING AND PAINTING SERVICES	17-18	25324	54971	JEFFCO PAINTING & COATING, INC	$400,000	12/17/2017	12/16/2018			

[1] This report captures completed contract activity (Purchase Order Number, Contract Term, and Contract Amount)