

## SAN JOSÉ/SANTA CLARA TREATMENT PLANT ADVISORY COMMITTEE

SAM LICCARDO, CHAIR  
PAT KOLSTAD, VICE CHAIR  
LAN DIEP, MEMBER  
DAVID SYKES, MEMBER  
DEV DAVIS, MEMBER

MARSHA GRILLI, MEMBER  
DEBI DAVIS, MEMBER  
STEVEN LEONARDIS, MEMBER  
JOHN GATTO, MEMBER

### AGENDA/TPAC

4:00 p.m.

February 8, 2018

Room 1734

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1. **ROLL CALL**

2. **APPROVAL OF MINUTES**

- A. November 9, 2017
- B. January 11, 2018

3. **UNFINISHED BUSINESS/REQUEST FOR DEFERRALS**

4. **DIRECTOR'S REPORT**

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

5. **AGREEMENTS/ACTION ITEMS**

- A. Second Amendment to the Master Service Agreement with Hydrosience Engineers, Inc. for Regional Wastewater Facility

Staff Recommendation:

Adopt a resolution authorizing the City Manager to execute a Second Amendment to the Master Service Agreement with HydroScience Engineers, Inc to extend the term of the Agreement through December 31, 2018.

**This item is scheduled for consideration by the City Council on February 13, 2018.**

6. **OTHER BUSINESS/CORRESPONDENCE**

- A. Information Memo regarding Early Work Package 2 for Construction of Civil Site Work and Foundations for the Cogeneration Facility at the San José-Santa Clara Regional Wastewater Facility

7. **STATUS OF ITEMS PREVIOUSLY RECOMMENDED FOR APPROVAL BY TPAC**

- A. First Amendment to the Master Agreement with Signet Testing Laboratories, Inc. for Special Inspection and Materials Testing Services for the San José – Santa Clara Regional Wastewater Facility Capital Improvement Program

Staff Recommendation:

Approve the First Amendment to the Master Agreement with Signet Testing Laboratories, Inc., for special inspection and materials testing services for various capital improvement projects at the San José-Santa Clara Regional Wastewater Facility to increase the amount of compensation by \$200,000, for a total agreement not to exceed \$700,000.

**The proposed recommendation was approved by the City Council on January 23, 2018.**

- B. Adoption of Mitigated Negative Declaration for the San José-Santa Clara Regional Wastewater Facility Pond A18 South Gate Levee Repair Project

Staff Recommendation:

Adopt a resolution adopting the Mitigated Negative Declaration and the corresponding Mitigation Monitoring and Reporting Program prepared for the San José-Santa Clara Regional Wastewater Facility Pond A18 South Gate Levee Repair Project (File No. PP17-047) as having been completed in compliance with the California Environmental Quality Act reflecting the City of San José's independent judgement and analysis.

**The proposed recommendation was approved by the City Council on January 23, 2018.**

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 \$1.17 million and of services between \$100,000 and \$290,000.

9. **MISCELLANEOUS**

- A. The next monthly TPAC Meeting is on **March 8, 2018, at 4:00 p.m.**, City Hall, Room 1734.

10. **OPEN FORUM**

11. **ADJOURNMENT**

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

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**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, 10<sup>th</sup> 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, November 9, 2017 at 4:00 p.m.

**1. ROLL CALL**

Minutes of the Treatment Plant Advisory Committee convened this date at 4:00 p.m. Roll call was taken with the following members in attendance:

**Committee Members:** Sylvia Arenas (alternate), Debi Davis, Lan Diep, John Gatto, Marsha Grilli, Steven Leonardis, David Sykes, Kathy Watanabe (alternate), Dev Davis

**Absent:** Chair Sam Liccardo and Vice Chair Pat Kolstad

**On a motion by Committee Member Grilli and a second by Committee Member Watanabe, TPAC nominated Committee Member Debi Davis to serve as Pro -Tem Chair for the November 9, 2017 TPAC meeting.**

**Ayes – 9** (Arenas, Debi Davis, Dev Davis, Diep, Gatto, Grilli, Leonardis, Sykes, Watanabe)

**Nays – 0**

**Absent – 0**

**2. APPROVAL OF MINUTES**

A. October 12, 2017

**Item 2.A. was approved to note and file.**

**Ayes – 9** (Arenas, Debi Davis, Dev Davis, Diep, Gatto, Grilli, Leonardis, Sykes, Watanabe)

**Nays – 0**

**Absent – 0**

**3. UNFINISHED BUSINESS/REQUEST FOR DEFERRALS**

**4. DIRECTOR'S REPORT**

A. Director's Report (verbal)

- Monthly Progress Report

Committee Member Gatto raised concerns about inconsistencies found in the September 2017 CIP Monthly Status Report. Staff clarified that costs are based on a multi-year encumbrance, construction, and non-construction costs. The figures also parallel the adopted budget and Five Year CIP. Director Kerrie Romanow suggested color coding items to ensure clarity and consistency between documents. Staff will clarify Committee Member Gatto's concerns at a future TPAC meeting.

Committee Member Gatto inquired about the purpose of the Digested Sludge Dewatering Facility. Assistant Director Ashwini Kantak responded that it is

part of the transition program to move from the open air lagoons and drying beds to a mechanized dewatering facility.

Committee Gatto suggested re-visiting the Biosolids Project, which was supported by Committee Member Grilli. Ms. Romanow noted the decision to proceed with the transition program was made in 2015, and that staff can provide documents about the decision making process. Committee Member Diep added that there were concerns from Milpitas and Santa Clara about odors potentially coming from the drying beds at the Regional Wastewater Facility.

A motion was made by Committee Member Watanabe and seconded by Committee Member Grilli for staff to agendize the Biosolids Transition History at a future TPAC meeting.

**Ayes – 5** (Debi Davis, Gatto, Grilli, Leonardis, Watanabe)

**Nayes – 4** (Arenas, Dev Davis, Diep, Sykes)

**Absent – 0**

5. **AGREEMENTS/ACTION ITEMS**

A. **Construction Contingency Increase for the 7382 – Digester and Thickeners Facilities Upgrade Project at the San Jose – Santa Clara Regional Wastewater Facility**

Staff Recommendations:

- (a) Approve a \$15,000,000 increase to the construction contingency amount of \$13,490,625 for a revised total contingency amount of \$28,490, 625 and increasing the contract not-to-exceed amount from \$136,415,625 for the 7382 – Digester and Thickeners Facilities Upgrade Project.
- (b) Adopt the following 2017-2018 Appropriation Ordinance Amendments in the San José – Santa Clara Treatment Plant Capital Fund:
  - (1) Decrease the Yard Piping and Improvements Appropriation to the Environmental Services Department by \$8,000,000;
  - (2) Decrease the Aeration Tanks and Blower Rehabilitation Appropriation to the Environmental Services Department by \$7,000,000; and
  - (3) Increase the Digester and Thickener Facilities Upgrade Appropriation to the Environmental Services Department by \$15,000,000.

**This item is scheduled for consideration by the City Council on November 28, 2017.**

Principal Engineer John Cannon and Program Manager Colin Page presented.

Committee Member Gatto commended the staff memo and inquired if the Yard Piping and Aeration Tanks and Blower Rehabilitation Projects are going to be deferred. City staff clarified that a portion of the money from the Yard Piping Project had been moved over to the Digester Project along with associated scope. Some money was still

allocated for other yard piping work that was underway. Additional money from the Aeration Tanks Project will be included in the next years CIP Budget. Committee Member Gatto also suggested staff provide a report to Council about the consultant's liability particularly with the seismic issue.

Committee Member Grilli expressed concerns about the design changes. She inquired if San José intends to pursue cost recovery from the consultant for omissions and errors, and if the Tributary Agencies will be credited. Assistant Director Ashwini Katak responded that the design changed their impacts. Staff will provide an update on the consultant along with remedies that will be pursued.

**On a motion made by Committee Member Gatto and a second by Committee Member Dev Davis, TPAC recommended approval of staff's recommendations for Item 5.A.**

**Ayes – 8** (Arenas, Debi Davis, Dev Davis, Diep, Gatto, Grilli, Sykes, Watanabe)

**Nayes – 1** (Leonardis)

**Absent – 0**

B. Report on Bids and Award of Contract for 8687 – Repairs of Water Services and Mains: 2017

Staff Recommendations:

- (1) Report on bids and award of contract for the 8687 - Repairs of Water Services and Mains: 2017 project to the lowest responsive bidder, San Jose Water Company, for the initial term of November 2017 through November 2020, in an amount not to exceed \$1,617,407.
- (2) Adoption of a resolution authorizing the City Manager to exercise one option to extend the contract for an additional one-year term after the expiration of the initial term in an amount not to exceed \$539,136, and a second option to extend the term of the contract for an additional one-year term after the first option year in an amount not to exceed \$539,136, for a total maximum contract amount of \$2,695,678 if both option years are exercised.

Director Kerrie Romanow clarified for Committee Member Gatto that San Jose Municipal Water provides water services for the San José – Santa Clara Regional Wastewater Facility.

**On a motion made by Committee Member Dev Davis and a second by Committee Member Diep, TPAC recommended approval of staff's recommendations for Item 5.B.**

**Ayes – 9** (Arenas, Debi Davis, Dev Davis, Diep, Gatto, Grilli, Leonardis, Sykes, Watanabe)

**Nayes – 0**

**Absent – 0**

6. **OTHER BUSINESS/CORRESPONDENCE**

- A. Approval of Early Work Package 2 for the Design and Construction of the Cogeneration Facility at the San Jose – Santa Clara Regional Wastewater Facility dated October 17, 2017

**Item 6.A. was approved to note and file.**

**Ayes – 9** (Arenas, Debi Davis, Dev Davis, Diep, Gatto, Grilli, Leonardis, Sykes, Watanabe)

**Nayes – 0**

**Absent – 0**

7. **STATUS OF ITEMS PREVIOUSLY RECOMMENDED FOR APPROVAL BY TPAC**

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

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

**The proposed recommendation was approved by the City Council on October 31, 2017.**

- B. Construction Impacts to the San Jose – Santa Clara Regional Wastewater Facility

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

**The proposed recommendation was approved by the City Council on October 31, 2017.**

- C. 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.

**The proposed recommendation was approved by the City Council on October 31, 2017.**

D. 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.

**The proposed recommendation was approved by the City Council on October 31, 2017.**

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

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

**The proposed recommendation was approved by the City Council on October 31, 2017.**

F. 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 at 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 recommended by TPAC on September 14, 2017, and was approved by the City Council on October 17, 2017.**

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

**Ayes – 9** (Arenas, Debi Davis, Dev Davis, Diep, Gatto, Grilli, Leonardis, 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** (Arenas, Debi Davis, Dev Davis, Diep, Gatto, Grilli, Leonardis, Sykes, Watanabe)

**Nays – 0**

**Absent – 0**

**9. MISCELLANEOUS**

- A. The next monthly TPAC Meeting is **January 11, 2018 at 4:00 p.m.**, City Hall, Room 1734.

**10. OPEN FORUM**

**11. ADJOURNMENT**

- A. The Treatment Plant Advisory Committee adjourned at 4:34 p.m.

Sam Liccardo, Chair  
TREATMENT PLANT ADVISORY COMMITTEE

**MINUTES OF THE  
SAN JOSÉ/SANTA CLARA  
TREATMENT PLANT ADVISORY COMMITTEE**  
San José City Hall, T-1734  
Thursday, January 11, 2018 at 4:00 p.m.

**1. ROLL CALL**

Minutes of the Treatment Plant Advisory Committee convened this date at 4:02 p.m. Roll call was taken with the following members in attendance:

**Committee Members:** Debi Davis, Dev Davis, John Gatto, Pat Kolstad, Steven Leonardis, Sam Liccardo, Dave Sykes, Lan Diep 4:04 PM

**Absent:** Marsha Grilli

**2. APPROVAL OF MINUTES**

A. November 9, 2017

Committee Member Gatto raised the concern that the vote count under Item 4., a motion made by Committee Member Watanabe and seconded by Committee member Grilli for staff to agendize the Biosolids Transition History at a future TPAC meeting was not correct. Chair Liccardo suggested Approval of Minutes be deferred pending staff review of the vote. Deferral was agreeable to everyone.

**Item 2.A. was deferred.**

**3. UNFINISHED BUSINESS/REQUEST FOR DEFERRALS**

**4. DIRECTOR'S REPORT**

A. Director's Report (verbal)

- Monthly Progress Report

Director Kerrie Romanow reported staff made updates to the Monthly Progress Report in response to Committee Member Gatto's concerns about the budget figures in the report.

Deputy Director Julia Nguyen explained the revisions made to the budget report and charts for clarification. Ms Nguyen reported \$500 million representing City of San José's portion of debt and bond issues was removed. Ms. Nguyen reminded the committee that the purpose of the report is to measure project performance against the budget for the year. Mr. Gatto remained concerned the figures did not add up. Chair Liccardo asked if staff would stay for a few minutes after the meeting to further clarify the budget figures. Ms. Nguyen volunteered to stay.

5. **AGREEMENTS/ACTION ITEMS**

- A. First Amendment to the Master Agreement with Signet Testing Laboratories, Inc. for Special Inspection and Materials Testing Services for the San José – Santa Clara Regional Wastewater Facility Capital Improvement Program

Staff Recommendation:

Approve the First Amendment to the Master Agreement with Signet Testing Laboratories, Inc., for special inspection and materials testing services for various capital improvement projects at the San José-Santa Clara Regional Wastewater Facility to increase the amount of compensation by \$200,000, for a total agreement not to exceed \$700,000.

**This item is scheduled for consideration by the City Council on January 23, 2018.**

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

**Ayes - 8** (Debi Davis, Dev Davis, Diep, Gatto, Kolstad, Leonardis, Liccardo, Sykes)

**Nays - 0**

**Absent - 1** (Grilli)

- B. Adoption of Mitigated Negative Declaration for the San José-Santa Clara Regional Wastewater Facility Pond A18 South Gate Levee Repair Project

Staff Recommendation:

Adopt a resolution adopting the Mitigated Negative Declaration and the corresponding Mitigation Monitoring and Reporting Program prepared for the San José-Santa Clara Regional Wastewater Facility Pond A18 South Gate Levee Repair Project (File No. PP17-047) as having been completed in compliance with the California Environmental Quality Act reflecting the City of San José's independent judgement and analysis.

**This item is scheduled for consideration by the City Council on January 23, 2018.**

Staff member Ken Davies clarified for Committee Member Gatto and Chair Liccardo when CEQA analysis is required for specific projects.

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

**Ayes - 8** (Debi Davis, Dev Davis, Diep, Gatto, Kolstad, Leonardis, Liccardo, Sykes)

**Nays - 0**

**Absent -1** (Grilli)

6. **OTHER BUSINESS/CORRESPONDENCE**

A. Tributary Agencies Available Plant Capacity Report dated December 20, 2017

**Item 6.A. was approved to note and file.**

**Ayes - 8** (Debi Davis, Dev Davis, Diep, Gatto, Kolstad, Leonardis, Liccardo, Sykes)

**Nayes - 0**

**Absent - 1** (Grilli)

7. **STATUS OF ITEMS PREVIOUSLY RECOMMENDED FOR APPROVAL BY TPAC**

A. Construction Contingency Increase for the 7382 – Digester and Thickener Facilities Upgrade Project at the San Jose – Santa Clara Regional Wastewater Facility

Staff Recommendations:

- (a) Approve a \$15,000,000 increase to the construction contingency amount of \$13,490,625 for a revised total contingency amount of \$28,490,625 and increasing the contract not-to-exceed amount from \$121,415,625 to a total revised contract amount not-to-exceed \$136,415,625 for the 7382 – Digester and Thickeners Facilities Upgrade Project.
- (b) Adopt the following 2017-2018 Appropriation Ordinance Amendments in the San José – Santa Clara Treatment Plant Capital Fund:
  - (1) Decrease the Yard Piping and Road Improvements appropriation to the Environmental Services Department by \$8,000,000;
  - (2) Decrease the Aeration Tanks and Blower Rehabilitation appropriation to the Environmental Services Department by \$7,000,000; and
  - (3) Increase the Digester and Thickener Facilities Upgrade appropriation to the Environmental Services Department by \$15,000,000.

**The proposed recommendation was approved by the City Council on November 28, 2017.**

B. Report on Bids and Award of Contract for 8687 – Repairs of Water Services and Mains: 2017

Staff Recommendations:

- (1) Report on bids and award of contract for the 8687 – Repairs of Water Services and Mains: 2017 project to the lowest responsive bidder, San Jose Water Company, for the initial term of November 2017 through November 2020, in an amount not to exceed \$1,617,407.
- (2) Adopt a resolution authorizing the City Manager to exercise one option to extend the contract for an additional one-year term after the expiration of the initial term in an amount not to exceed \$539,136, and a second option to extend the term of the contract for an additional one-year term after the first option year in an

amount not to exceed \$539,136, for a total maximum contract amount of the \$2,695,678 if both option years are exercised.

**The proposed recommendation was approved by the City Council on November 14, 2017.**

There were no questions or discussion on this item.

**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.

There were no questions or discussion on this item.

**9. MISCELLANEOUS**

- A. The next monthly TPAC Meeting is **February 8, 2018** at 4:00 p.m., City Hall, Room 1734.

**10. OPEN FORUM**

**11. ADJOURNMENT**

- A. The Treatment Plant Advisory Committee adjourned at 4:10 p.m.

Sam Liccardo, Chair  
TREATMENT PLANT ADVISORY COMMITTEE



San José-Santa Clara  
Regional Wastewater Facility

# Capital Improvement Program Monthly Status Report: December 2017

February 1, 2018

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

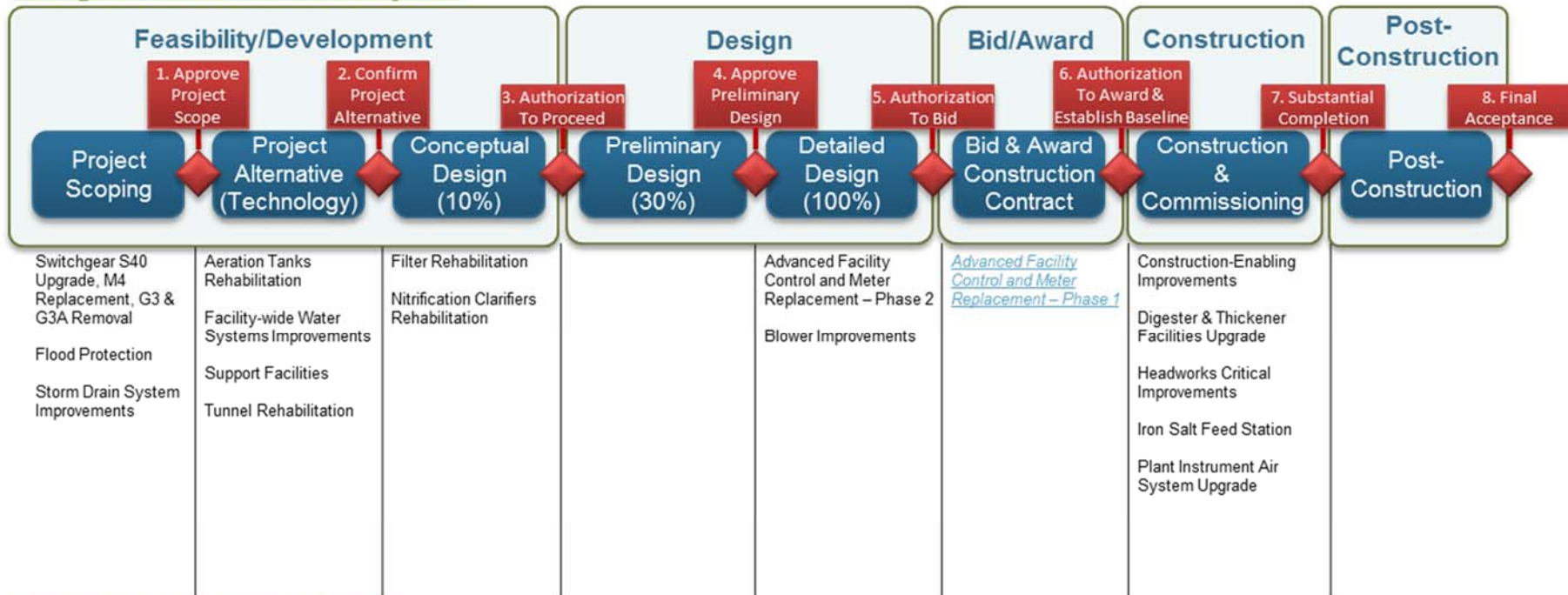
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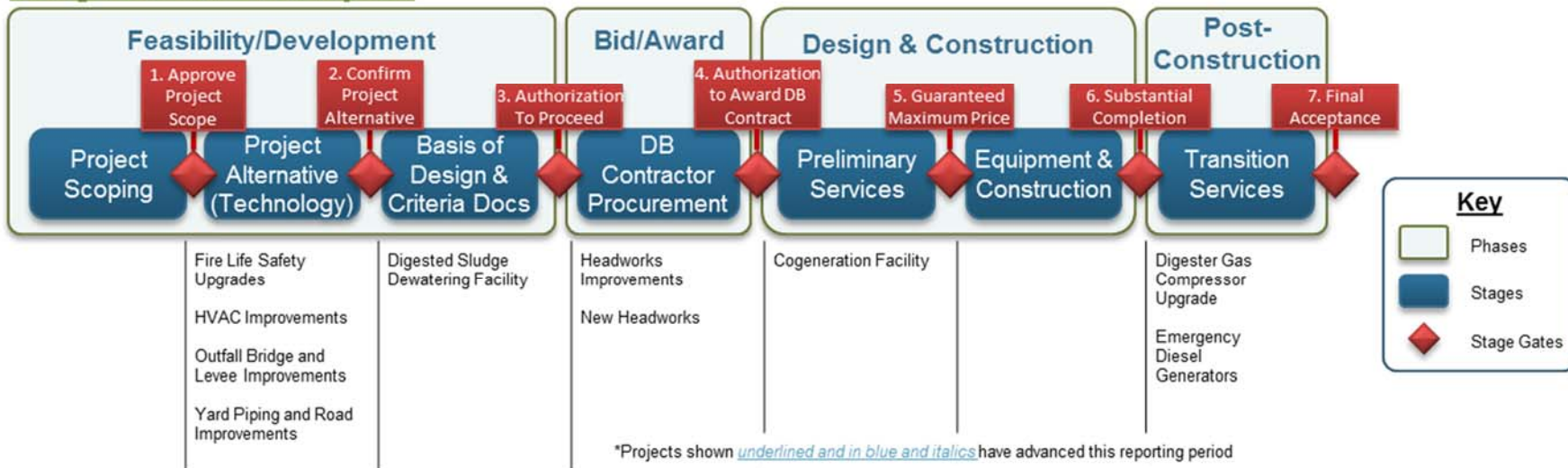


# Project Delivery Model

## Design-Bid-Build Active Projects



## Design-Build Active Projects



## Program Summary

### December 2017

Twenty CIP projects continued to progress through the feasibility/development, design, and bid/award stages of the project delivery model (PDM) in December. Of particular note, the Advanced Facility Control & Meter Replacement – Phase 1 Project moved through the Authorization to Bid stage gate. This project will upgrade the control equipment, including flow meters, sensors, valves, and actuators throughout the RWF, to increase equipment and data reliability and integrity, and improve the RWF's overall operations and efficiency. The original project was envisioned to be designed, bid, and constructed as a single project; however, after completion of the 50 percent design, the project was split into two phases to better accommodate operational constraints. The estimated \$10.2 million Phase 1 construction contract will replace and/or upgrade the control equipment in the Secondary (BNR1) Battery B and Nitrification (BNR2) Battery B RWF process areas. The second phase of work will be bid in 2020 and will replace and/or upgrade the control equipment in the Secondary (BNR1) Battery A, Nitrification (BNR2) Battery A, East Primary, and Filtration process areas.

Alternatives analysis work continued this month on the Aeration Tanks Rehabilitation, Facility-wide Water Systems Improvements, and Fire Life Safety Upgrades projects. In addition, the HVAC Improvements Project team held its kickoff meeting with the design consultant. This project will replace and upgrade aging heating, ventilation, and air conditioning (HVAC) equipment in 18 support buildings across the RWF, including exhaust fans, heating ventilation units, air conditioning units, boilers, and chillers. Following the data collection exercise started this month, the project team will carry out condition assessments of the HVAC systems in early 2018. Conceptual design work progressed on the Filter Rehabilitation and Nitrification Clarifiers Rehabilitation projects. Both projects will reach 10 percent design completion in early 2018. Detailed design also progressed on the Blower Improvements Project. The project team for the Cogeneration Facility Project accepted the formal project submittal and guaranteed maximum price (GMP) proposal and issued a Notice To Proceed (NTP) to allow the contractor to commence construction of the civil site works Early Work Package 2. Additionally, the City received proposals for design-build services for the Headworks Improvements and New Headworks projects, and for construction specialty inspection services for the CIP. Staff will begin evaluating proposals received in January 2018 and hold interviews with proposers in February 2018 for both procurement efforts.

The following five active CIP construction projects continued to make progress: Construction-Enabling Improvements; Digester and Thickener Facilities Upgrade; Headworks Critical Improvements; Iron Salt Feed Station; and Plant Instrument Air System Upgrade. The Headworks Critical Improvements Project contractor completed installation of the first of two new bar screens. The Plant Instrument Air System Upgrade Project contractor completed construction of the new building roof structure, allowing equipment delivery and installation in January 2018. The Digester and Thickener Facilities Upgrade Project contractor continued construction of the new screening building, elevated pipe rack, and dissolved air floatation tanks, while the design consultant completed the digester tanks' seismic retrofit redesign. The Environmental Protection Agency (EPA) approved the hazardous materials testing and disposal plan for polychlorinated biphenyls (PCB) materials identified in the digester area. The City and contractor will work towards agreement on costs allowing these additional work items to be directed as contract change orders. Staff will provide additional updates on the delays and costs associated with these items as more information becomes available.

The CIP carried out construction Health and Safety Training based upon OSHA training syllabuses for more than 250 CIP and RWF staff during December.

### Look Ahead

The following key activities are forecast for January/February 2018:

- Three projects will seek approval to advance through the Approve Project Scope stage gate: Flood Protection, Storm Drain System Improvements, and Switchgear S40 Upgrade, M4 Replacement, G3 and G3A Removal;
- The Filter Rehabilitation Project team will seek approval to advance through the Authorization To Proceed (10 percent Conceptual Design) stage gate;
- The City will issue a Request for Qualifications (RFQ) for design-build services for the Digested Sludge Dewatering Facility Project;
- The City will advertise a construction contract for the Advanced Facility Control & Meter Replacement – Phase 1 Project;
- The Bay Area Air Quality Management District (BAAQMD) will issue the air permit for the Cogeneration Facility Project. The project team will seek approval to advance through the design-build GMP stage gate;
- Construction work will commence onsite to install the temporary bypass pumping system for the Digester and Thickener Facilities Upgrade Project. This system will allow replacement of the badly corroded 78" settled sewage pipeline during the summer dry season; and
- The Iron Salt Feed Station Project will reach the Beneficial Use milestone.





- Staff will bring a recommendation to City Council (Council) and Treatment Plant Advisory Committee (TPAC) to amend a Master Services Agreement (MSA) to continue special inspection and materials testing services on the Digester and Thickener Facilities Upgrade Project.



## Program Highlight – Subsurface Investigations

Most CIP projects require the installation of new buried facilities or the connection into buried underground structures or utilities. It is important to know the location and condition of existing underground facilities to allow efficient and cost-effective construction, as well as to avoid accidental disruption to important and critical treatment processes. Inadequate information about the location and nature of underground utilities can result in higher bid costs, interruptions to the treatment process, and costly damage repairs during a construction contract.

When construction contractors are not adequately informed about the location or condition of underground utilities they will add contingent costs to their bids and/or file claims to recover unanticipated expenses. For these reasons it is important that the City include as much information about underground utilities as possible in specifications and drawings.

An integral part of each design project is the conduct of a subsurface investigation. This investigation normally occurs early in the preliminary design period, once the general location of new construction is determined. The investigation consists of researching existing records; accessing the institutional knowledge of City staff and contractors; and conducting new field work to uncover buried utilities.

Existing records consist of historic construction photos, as-built drawings of past projects, maintenance records, and past field investigations conducted for other RWF projects. These records present a varying degree of detail and accuracy and careful judgment must be exercised when relying on the data collected. The outcome of the search and evaluation of existing records sometimes forms the basis of a scope of work for a new field investigation.

Existing records are often supplemented by the direct knowledge of the RWF's Geographical Information Systems Group; operations and maintenance (O&M) staff; and construction management teams whom have observed the location of underground structures and utilities. Staff has gained this knowledge through the observation of original construction activities, maintenance activities, or from discussions with other staff. Personnel from past construction contracts may also have records and recollections about the location of underground utilities.



**Figure 2: Underground Utility Routing Challenges**

Field investigations consist of potholing, trenching, ground penetrating radar, Global Positioning System (GPS) locating, or other subsurface investigative techniques to confirm or establish the presence of utilities in critical locations. Such work is conducted when confidence in the accuracy of available records is not as high as desired and when more information will likely lower the City's overall risks. It is far better to invest in verifying the correct locations of underground utilities than to pay the general contractor for costly repairs and time delays.



































**Figure 1: Typical Utility Conflicts**

Construction contract documents place responsibility on the general contractor to field-verify the locations of buried utilities shown on the design drawings before starting excavation. Any discrepancies can then be addressed with design modifications early in the

## 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
<b>Stage Gates</b>	80%	100%			100%		
		9/9 <sup>1</sup>			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%							
<b>Schedule</b>	90%	0%			40%		
		0/1			2/5		
Measurement: Percentage of CIP projects delivered within 2 months of approved baseline Beneficial Use Milestone. <sup>2</sup> Target: Green: >= 90%; Amber: 75% to 89%; Red: < 75%							
<b>Budget</b>	90%	100%			86%		
		1/1			6/7		
Measurement: Percentage of CIP projects that are accepted by the City within the approved baseline budget. <sup>2</sup> Target: Green: >= 90%; Amber: 75% to 89%; Red: < 75%							
<b>Expenditure</b>	\$248M	\$174M			\$298M		
Measurement: CIP FY17-18 committed costs. Target: Committed cost meets or exceeds 70% of planned Budget. 70% of \$354M = \$248M. Therefore Green: >=\$248M; Amber: \$195M to \$248M; Red: < \$195M							
<b>Procurement</b>	80%	100%			100%		
		1/1			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%							
<b>Safety</b>	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							
<b>Environmental</b>	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							
<b>Staffing<sup>3</sup></b>	80%	100%			100%		
		12/12 <sup>4</sup>			15/15		
Measurement: Number of planned positions filled for the fiscal year. Target: Green: >= 80%; Amber: 70% to 79%; Red: < 70%							

#### Notes

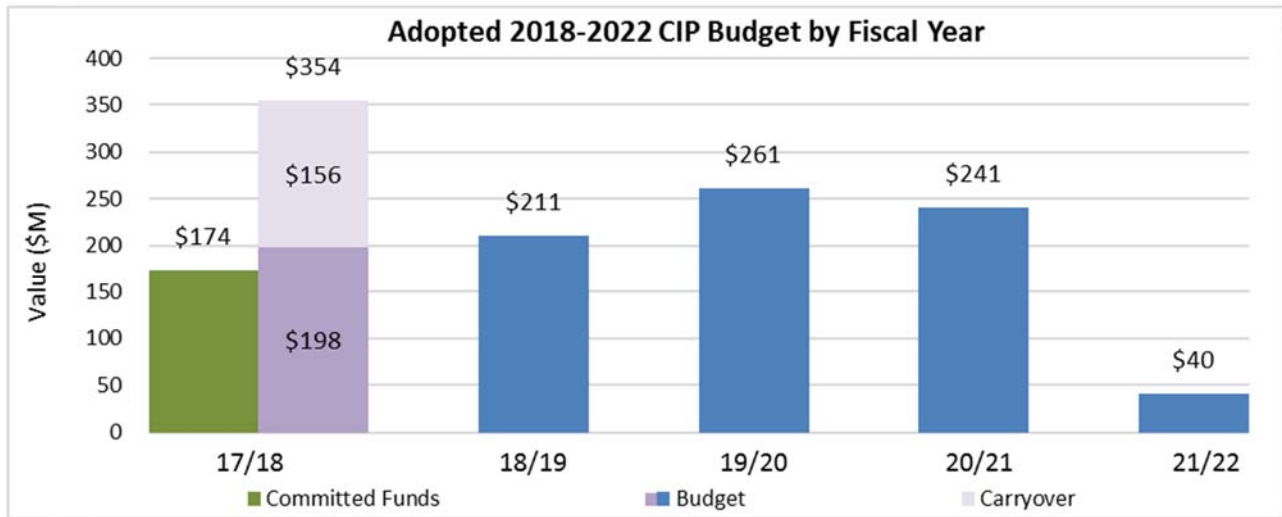
1. The Advanced Facility Control and Meter Replacement Phase 1 Project successfully completed the Authorization to Bid stage gate.
2. The baseline Beneficial Use date and the baseline budget for each project are established at construction contract award and execution.
3. Measured quarterly, the staffing KPI represents CIP recruitments planned for the fiscal year. This December report includes the most recent update. This KPI measurement does not account for staff turnover throughout the fiscal year.
4. The KPI was updated for the second quarter. The program hired or promoted two Associate Engineers, three Associate Engineering Technicians, one Engineer I/II, one Office Specialist, and one Senior Process Engineer.



## Program Budget Performance Summary

This section summarizes the cumulative monthly budget performance for fiscal year (FY) 17-18 based on the 2018-2022 CIP.

### Adopted 2018-2022 CIP Expenditure and Encumbrances



#### Notes

**Committed Funds:** Total of expenditures and encumbrances.

**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.

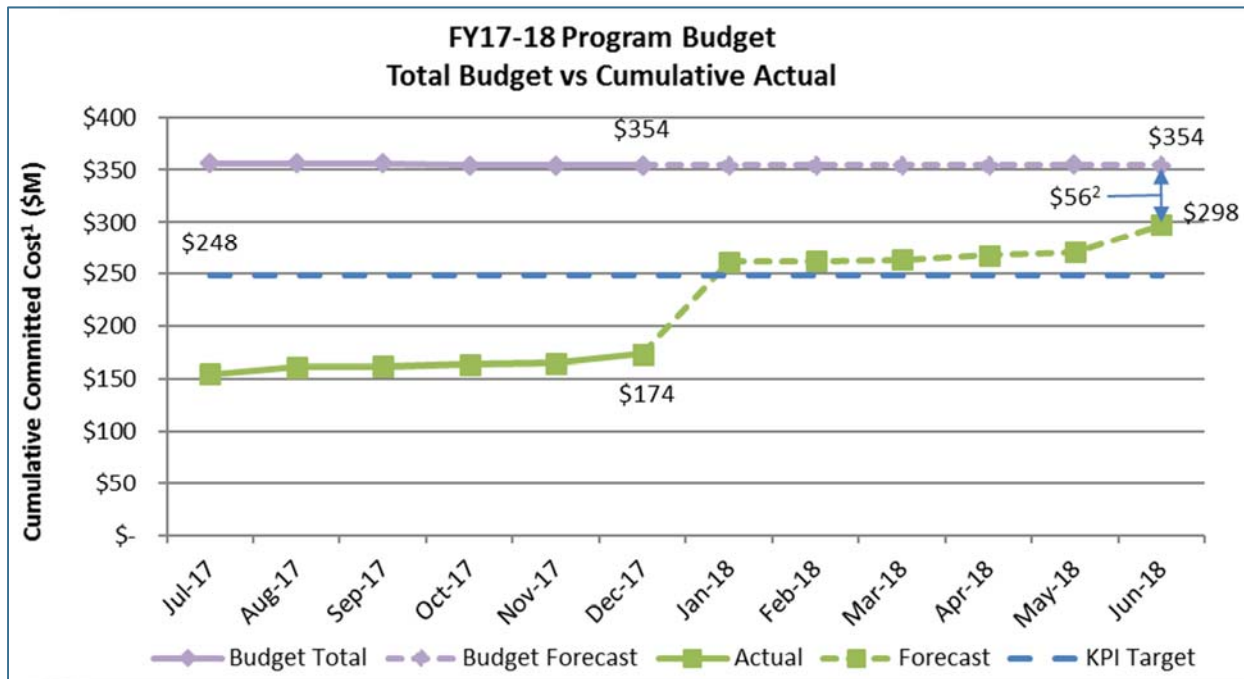
The Fiscal Year Budget for 2017-18 is \$238 million, which consists of \$198 million in new funds and \$40 million in rebudgets. Rebudgets can happen as part of the budget adoption process in June, which is reflected in the published Adopted CIP, or as part of the fall cleanup in October, which is reflected beginning with the October external monthly report. For purposes of the monthly report, the adopted FY17-18 budget is adjusted from \$238 million to \$198 million by excluding certain appropriations. Excluded appropriations include Urgent and Unscheduled Treatment Plant Rehabilitation, SBWR Extension, Debt Service Repayment for Plant Capital Improvement Projects (San José only debt service), Public Art, State Revolving Fund Loan Repayment, City Hall Debt Service Fund, Clean Water Financing Authority Debt Service Payment Fund, Equipment Replacement Reserve, and Ending Fund Balance. The budgets for FY18-19 through FY 21-22 are similarly adjusted. The FY17-18 Budget also includes a fall rebudget (or cleanup) of previous fiscal year funds, which are not reflected in the published Adopted CIP.

**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 \$198.5 million plus carryover of \$155.9 million. The budget excludes Reserves, Ending Fund Balance, Debt Service, 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 variance between budget and expenditures can be primarily attributed to the following factors:
  - a. The following construction contracts are now expected to be awarded in FY18-19:
    - i. Blower Improvements Project
    - ii. Fire Life Safety Upgrades Project
  - b. The following consultant service orders are now expected to be executed in FY18-19:
    - i. Filter Rehabilitation Project – detailed design work
    - ii. Facility-wide Water Systems Improvements Project - preliminary and detailed design work
    - iii. Tunnel Rehabilitation Project – feasibility/development work
  - c. Several other minor encumbrances for consultant services are either lower than budgeted or are anticipated to be awarded in FY18-19.
  - d. Several authorized positions remain vacant, resulting in lower predicted personal services expenses than budgeted.
  - e. The FY17-18 budget includes three recurring appropriations (Preliminary Engineering, Equipment Replacement, and Plant Infrastructure Improvements) totaling approximately \$3.66 million. These appropriations are included in the budget to implement minor capital improvement projects that may be needed during the fiscal year. No major expenditures or encumbrances are currently planned against these appropriations.



## Project Performance Summary

There are currently seven active projects in the construction or post-construction phases, with an additional 20 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.

### Project Performance – Baselined Projects

Project Name	Phase	Estimated Beneficial Use Date <sup>1</sup>	Cost Performance <sup>2</sup>	Schedule Performance <sup>2</sup>
1. Digester Gas Compressor Upgrade	Post-Construction	Apr 2017 <sup>3</sup>	◆	◆
2. Emergency Diesel Generators	Post-Construction	Jul 2017 <sup>3</sup>	●	◆
3. Iron Salt Feed Station	Construction	Feb 2018	●	◆
4. Construction-Enabling Improvements	Construction	Mar 2018	●	◆
5. Plant Instrument Air System Upgrade	Construction	May 2018	●	●
6. Headworks Critical Improvements	Construction	Jun 2018	●	●
7. Digester and Thickener Facilities Upgrade	Construction	Sep 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 13.
3. Actual Beneficial Use date.



## Project Performance – Pre-Baselined Projects

Project Name	Phase	Estimated Beneficial Use Date <sup>1</sup>
1. Cogeneration Facility	Design & Construction	Dec 2019
2. Advanced Facility Control & Meter Replacement Phase 1	Design	Dec 2020
3. Blower Improvements	Design	Oct 2021
4. Advanced Facility Control & Meter Replacement Phase 2	Design	Dec 2022
5. Outfall Bridge and Levee Improvements	Feasibility/Development	Jan 2021
6. Flood Protection	Feasibility/Development	Jan 2022
7. Switchgear S40 Upgrade, M4 Replacement, G3 & G3A Removal	Feasibility/Development	May 2022
8. Digested Sludge Dewatering Facility	Feasibility/Development	Sep 2022
9. Fire Life Safety Upgrades	Feasibility/Development	Sep 2022
10. Headworks Improvements	Feasibility/Development	Sep 2022
11. New Headworks	Feasibility/Development	Sep 2022
12. Filter Rehabilitation	Feasibility/Development	Oct 2022
13. Storm Drain System Improvements	Feasibility/Development	Jan 2023
14. HVAC Improvements	Feasibility/Development	Mar 2023
15. Facility-wide Water Systems Improvements	Feasibility/Development	May 2023
16. Nitrification Clarifiers Rehabilitation	Feasibility/Development	Dec 2023
17. Aeration Tanks Rehabilitation	Feasibility/Development	Aug 2025
18. Tunnel Rehabilitation	Feasibility/Development	Sep 2026
19. Support Facilities	Feasibility/Development	Dec 2026
20. 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 completed the hydro testing of the thickened sludge equalization tanks and pouring of the dissolved air floatation tanks' subnatant channel walls. Next, the contractor will begin to install the settled sewage pipeline bypass piping and equipment.
- The EPA approved a soil management plan to address PCB remediation.

#### Digested Sludge Dewatering Facility

- The City Planning Department completed the California Environmental Quality Act (CEQA) determination, concluding an addendum to the Plant Master Plan Environmental Impact Report will be required. Next, the project team will issue an RFQ for the design-build entity in February 2018.

### Facilities Package

#### Cogeneration Facility

- The City executed and issued the Notice to Proceed for Early Work Package 2 allowing the contractor to construct sitework, utilities, and the foundation slab. Next, the project team will complete negotiations with the design-builder and execute the definitive contract amendment establishing the GMP.

#### Facility-wide Water Systems Improvements

- Design consultant Kennedy/Jenks (KJ) completed hydraulic modeling of the groundwater system. Next, the project team will review outstanding hydraulic modeling calibration issues and consider alternative analysis options.

#### Fire Life Safety Upgrades

- KJ completed condition assessments of the fire life systems at 31 RWF buildings. Once the condition assessment findings are evaluated and agreed upon with the project team, KJ will begin alternative analysis which is anticipated to be completed in July 2018.

#### Flood Protection

- The project team updated the RWF Flood Protection Guidance document prior to defining the project scope. Staff anticipates approval of the project scope in February 2018.

#### HVAC Improvements

- The project team held its kickoff meeting with design consultant KJ. Following the data collection exercise started this month, the project team will carry out condition assessments of the HVAC systems in 18 support buildings across the RWF in early 2018.

#### Yard Piping and Road Improvements

- The City completed the Owner Advisor Services selection evaluation process. Black and Veatch was the highest ranked consultant. Staff anticipate going to Council in April 2018 to recommend award of the agreement.

### Liquids Package

#### Advanced Facility Control and Meter Replacement – Phase 1

- Design consultant Black & Veatch submitted the 100 percent design documents.
- The project team successfully completed the Authorization to Bid stage gate. Next month, the City will advertise the project and hold a pre-bid conference. Bids are scheduled to be opened in February 2018.

#### Aeration Tanks Rehabilitation

- Brown and Caldwell (B&C) held a workshop to present the condition assessment findings to the project team and stakeholders. Next month, B&C will hold a workshop to select the preferred alternative for meeting future discharge requirements.

#### Filter Rehabilitation

- KJ provided the draft Conceptual Design Report (CDR) and Class 4 Opinion of Probable Construction Cost (OPCC) to the City for review, and held a workshop to present the CDR to staff. Next, the project team will seek authorization to proceed to preliminary design.





### Headworks Critical Improvements

- Contractor Overaa Construction completed installation of the first bar screen and will begin installation of the final bar screen next month.

### Iron Salt Feed Station

- Contractor Anderson Pacific completed minor changes in piping and process control programming, as well as operational testing with water. Next, the contractor will begin operational testing with chemicals. Staff anticipate achieving Beneficial Use in February 2018.

### Nitrification Clarifiers Rehabilitation

- HDR and the project team held the first workshop during the conceptual design phase. The final conceptual design report is anticipated in February 2018.

## **Power and Energy Package**

### Plant Instrument Air System Upgrade

- Contractor Anderson Pacific completed the new compressor building roof and began storing the compressor equipment and tanks in the building. Next, the contractor will install the doors and louvers.
- The City approved the Compressor Building roadway design. Anderson Pacific will install the roadway when the weather clears.



## 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 2016-17 winter season, contractor Teichert Construction was unable to perform site work for several weeks from October 2016 through April 2017. Teichert has been granted 47 extra work days for weather-related delays. Teichert has also been granted additional time to remove and replace asphalt pavement in damaged areas of Zanker Road; install traffic-rated pull boxes for the streetlight system; install underground conduits for the fiber optic system; and make additional changes.

Delays in the fabrication and delivery of portable trailers required for the project continue to impact the schedule. The trailer to be used for badging and training was delivered in August; however, the trailers to be used for construction management personnel are still under fabrication. Teichert now estimates that the construction management trailers will be delivered in January 2018. Installation and furnishing of these trailers, plus final inspection, should take another four to six weeks, placing the Beneficial Use date in March 2018. The City notified Teichert that the number of contract work days has been exceeded and that liquidated damages are in effect. By the end of this reporting month, liquidated damages were \$137,000.

### Digester and Thickener Facilities Upgrade

This project is over budget due to numerous unforeseen conditions, seismic design modifications, and hazardous material issues that are currently being investigated.

Numerous unforeseen conditions are impacting the project schedule. The conditions, detailed below, are resulting in an estimated five-month delay to the Beneficial Use date.

- Contractor Walsh Construction encountered major corrosion of an existing, below-ground 78-inch settled sewage pipeline and junction structure 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 was delayed approximately six months due to BAAQMD venting restrictions. Work on digester gas bypass connections was completed and the digester gas bypass is now in service.

The following additional outstanding issues are currently being evaluated and are expected to result in additional costs and delays:

- Digester structural design is being revised for seismic safety. Revised design details will result in schedule delays and increased coordination with ongoing construction.
- Planned excavations for digesters five through eight are on hold until testing of soils and concrete for PCBs is completed and results show clearance of hazardous material contamination around the surrounding work areas.

### 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 early 2018. This schedule delay was primarily due to the following factors:

- The compressor skids were required 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 Generators

This project reached Beneficial Use in July 2017; final acceptance is scheduled for February 2018. 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 189 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, took longer than expected to develop the controls and network switches that interface with existing RWF controls. Caterpillar has completed their outstanding items. Peterson Control is completing their outstanding items and obtaining O&M final signoff.
- 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 both 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 is now in the post-construction phase for completion of remaining minor outstanding items.

## Iron Salt Feed Station

The Iron Salt Feed Station Project construction has been delayed by four months due to a combination of heavy winter rain; longer than anticipated time to fabricate the double containment pipeline and leak detection system; and longer than anticipated time to complete operational testing and commission the new equipment. Staff anticipate that the contractor will reach Beneficial Use in February 2018.



## Project Profile – Fire Life Safety Upgrades

The RWF's main operational area is approximately 150 acres and houses unit treatment processes as well as more than two dozen support building facilities that are scattered throughout the site. The main support building facilities include an administration building, environmental services building (including a laboratory), warehouse, training trailers, and various maintenance shops (e.g., electrical, instrumentation and control, machine, paint, wood, and vehicle service). The existing support building facilities were constructed over time corresponding with the original RWF construction in 1954 followed by subsequent facility expansions. Much like the unit treatment processes, the support building facilities are now between 30 to 60 years old and are in need of refurbishment, replacement, and/or upgrade. The buildings range in size from 1,440 square feet to 31,600 square feet with a combined total estimated floor area of approximately 180,000 square feet.

In late 2011, a Fire Code Compliance Gap Analysis study was conducted that identified fire code compliance gaps and fire risk potentials across most of the support buildings. A total of 109 findings were identified based on visual inspections of 29 support buildings; 8 findings were ranked in the high-risk category, and 32 findings were ranked in the medium risk category. The remaining findings were ranked as low or slight risk. Since 2012, RWF staff have implemented standard operating procedures and taken corrective actions to address many of the findings, however, some findings remain outstanding and require capital construction.

The study identified two high risk items related to the fire protection system serving the various support buildings: 1) lack of a separate fire water system dedicated solely for firefighting purposes (the current source of water for firefighting purposes is supplied from the final effluent of the RWF; the same fire water also serves as a backup water supply for part of the digestion process), and 2) the need to perform hydraulic analysis to confirm adequate flow, pressure, and pumping capacity exists to serve both current (and future) operations. The Facility-wide Water System Improvements project will address these specific findings.

The study also identified several medium ranked issues related to support buildings: 1) lack of seismic bracing of fire sprinkler systems in some buildings; 2) absence of alarm monitoring on fire pumps (e.g. running, power failure) and electronic notification to the main control room; and 3) lack of a centralized alarm monitoring and notification system for existing buildings with fire alarm systems to enable immediate and automatic notification to RWF staff, the main control room, and the Fire Department in the event of fire. The Fire Life Safety Upgrades project will address these issues.

In January 2017, the City awarded a master consultant agreement to KJ to provide engineering services for this project and other related support building projects at the RWF. The project will follow a 30 percent low-bid, design-build delivery model, with KJ completing a conceptual design and performance specifications for a design-build entity. Construction is scheduled to begin in spring 2020 with substantial completion expected for all project sections by fall 2022.

The design consultant's tasks include:

- Conducting non-destructive field assessments of 31 (29 original + 2 additional) buildings to ensure conformance with 2016 California Building Code and California Fire Code;
- Conducting non-destructive field assessments of on-site firewater systems and existing fire notification infrastructure;
- Designing and installing a centralized fire alarm system, integrating existing and new fire alarm systems, and dedicating a centralized monitoring location;
- Identifying opportunities for improving fire life safety systems in critical facilities beyond minimum code requirements; and
- Resolving any identified code deficiencies.

The condition assessment is scheduled to be completed in January 2018. This effort will provide the design team with valuable information regarding existing building conditions and current alarm system operations. KJ is currently reviewing the data to prepare a condition assessment report and presentation for spring 2018.



Figure 3: Global Alarm Panel in the Filter Influent Pump Station



Figure 4: Fire Control and Communicator in CL/SO2 Building

# Regional Wastewater Facility Treatment – Current Treatment Process Flow Diagram

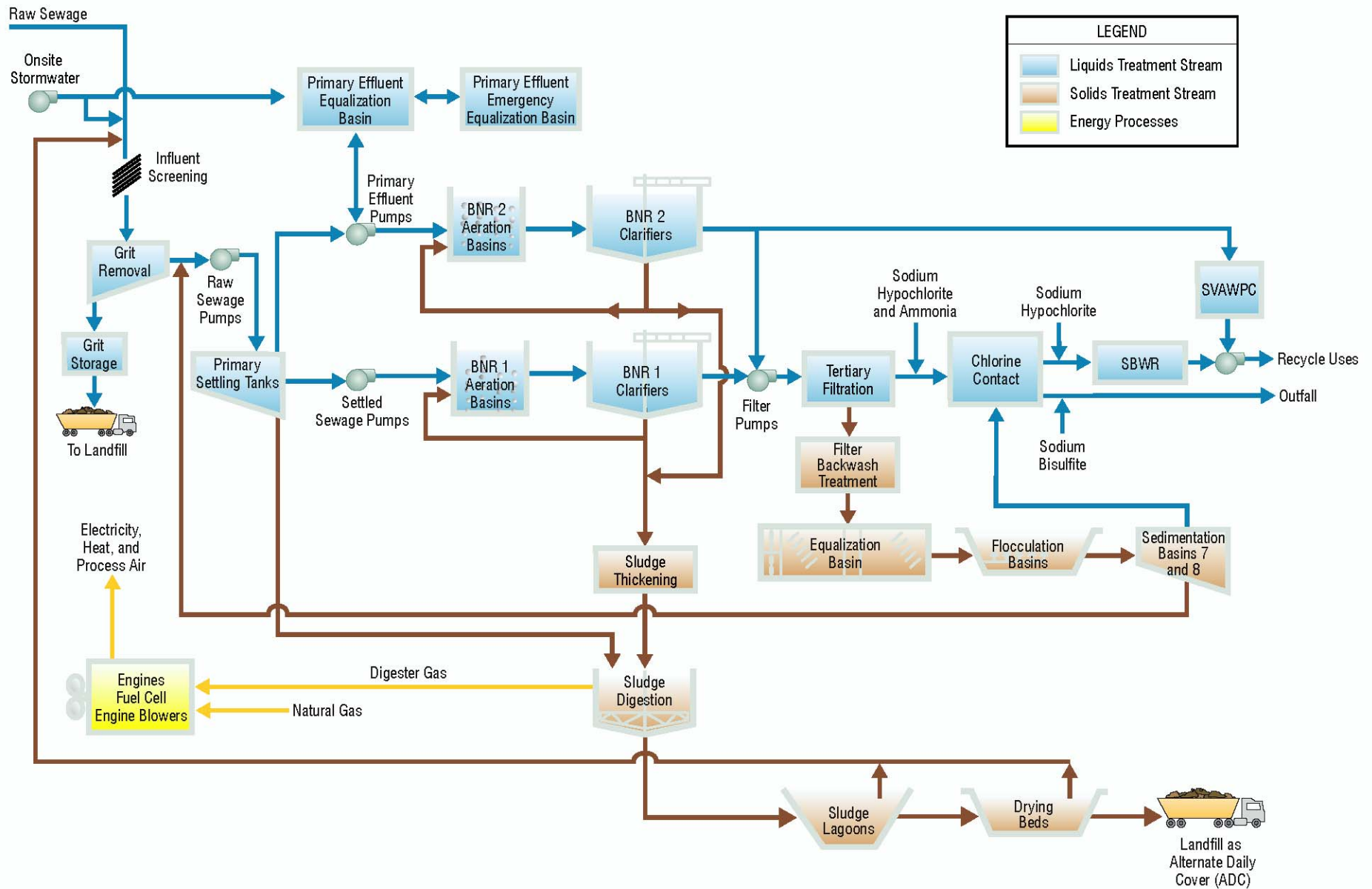


Figure 5 – Current Treatment Process Flow Diagram



# Regional Wastewater Facility Treatment – Proposed Treatment Process Flow Diagram

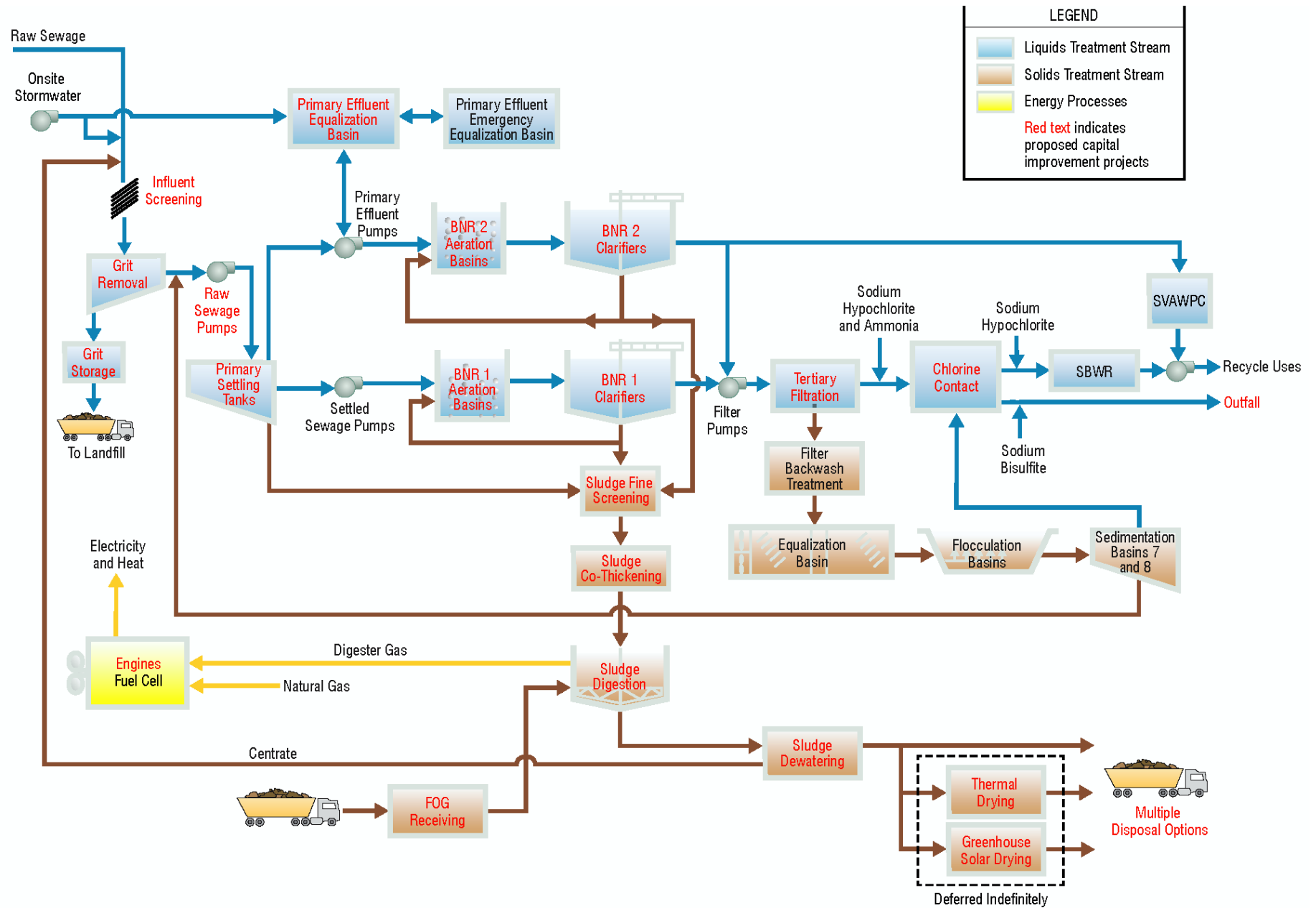


Figure 6 – Proposed Treatment Process Flow Diagram



## Active Construction Projects – Aerial Plan

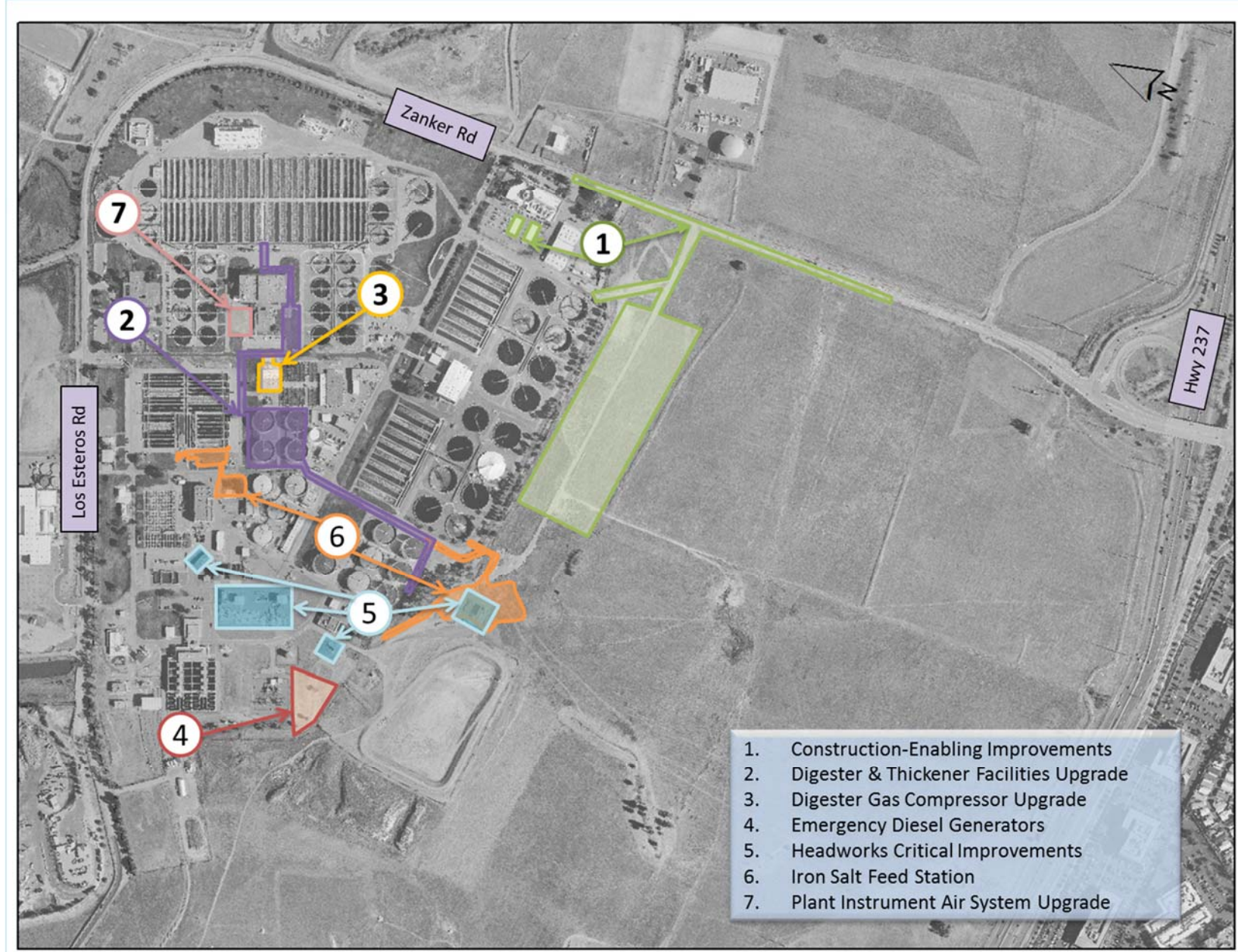
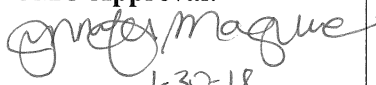


Figure 7 – Active Construction Projects



**CITY COUNCIL ACTION REQUEST**

<b>Department(s):</b> Environmental Services	<b>CEQA:</b> Not a Project, File No. PP17-003, Agreements/	<b>Coordination:</b> City Attorney's Office	<b>Dept. Approval:</b> /s/ Kerrie Romanow
<b>Council District(s):</b> Citywide	Contracts (New or Amended) resulting in no physical changes to the environment		<b>CMO Approval:</b>  1-30-18

**SUBJECT: SECOND AMENDMENT TO THE MASTER SERVICE AGREEMENT WITH HYDROSCIENCE ENGINEERS, INC. FOR REGIONAL WASTEWATER FACILITY**

**RECOMMENDATION:**

Adopt a resolution authorizing the City Manager to execute a Second Amendment to the Master Service Agreement with HydroScience Engineers, Inc to extend the term of the Agreement through December 31, 2018.

**Desired Outcome:** Successfully complete various ongoing Operation and Maintenance (O&M) projects and provide construction support services for ongoing construction projects for the San José–Santa Clara Regional Wastewater Facility O&M groups.

**BASIS FOR RECOMMENDATION:**

In February 2014, the City Council approved an agreement with Hydrosience Engineers, Inc. for engineering support and services for the San José–Santa Clara Regional Wastewater Facility for various O&M projects on an as-needed basis and described generally as:

- Engineering studies and conceptual design;
- Preparation of construction bid documents and construction management support;
- Preparation of Operations and Maintenance manuals for newly constructed or rehabilitated facilities;
- Geotechnical and material testing services; and
- Field engineering services.

A First Amendment to the Agreement was executed in May 2016 to adjust the compensation rates. The City exercised the third (3<sup>rd</sup>) 1-Year Option, which will end on February 28, 2018. There are currently multiple active Service Orders with various projects such as Pond A18 levee repairs, replacing the paint spray booth, nitrification area lighting improvements, facility fiber optic and computer network upgrade, and pump station HVAC improvements, etc., which are in various stages of implementation. It is anticipated that several of the projects will require additional time beyond February 28, 2018 for completion.

**COST AND FUNDING SOURCE:**

Funding for service orders issued under the Master Service Agreement will be made available from the San José–Santa Clara Treatment Plant Operating Fund (Fund 513). The Master Service Agreement is for a four-year total not to exceed \$2,000,000, and will be subject to the appropriation of funds with each agreement option. This extension does not change the not-to-exceed amount.

**FOR QUESTIONS CONTACT:** Amit Mutsuddy, Deputy Director of Wastewater Management at 408-635-2007.



# Memorandum

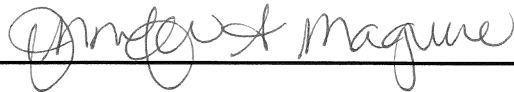
**TO:** HONORABLE MAYOR  
AND CITY COUNCIL

**FROM:** Kerrie Romanow  
Jon Cicirelli

**SUBJECT:** SEE BELOW

**DATE:** January 31, 2018

Approved



Date

1-31-18

## INFORMATION

**SUBJECT: EARLY WORK PACKAGE 2 FOR CONSTRUCTION OF CIVIL SITE WORK AND FOUNDATIONS FOR THE COGENERATION FACILITY AT THE SAN JOSE-SANTA CLARA REGIONAL WASTEWATER FACILITY**

The purpose of this memorandum is to inform the City Council about a major milestone for the Cogeneration Facility at the San José-Santa Clara Regional Wastewater Facility (RWF).

On April 26, 2016, City Council approved the design-build contract with CH2M HILL Engineers, Inc. for the Cogeneration Facility at the RWF ([link](#)). The City Council also authorized the City Manager to negotiate and execute separate agreements and/or amendments to the contract, referred to as "Early Work Packages," for early procurement and other work, prior to the City's execution of the definitive contract amendment, up to a maximum of \$30,000,000.

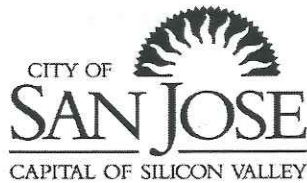
On May 24 2017, the City Manager approved Early Work Package 1, which authorized the procurement of engine generators and a gas purification system, in an amount not to exceed \$24,411,351. The attached memorandum, approved by the City Manager on October 23, 2017, authorizes Early Work Package 2, which provides for the construction of civil site work and building foundations for the Cogeneration Facility, in an amount not to exceed \$3,951,611. The contract amendment related to Early Work Package 2 is not attached to this information memorandum due to its size; however, it is available for viewing at the Office of the City Clerk.

/s/ Ashwini Kantak for  
KERRIE ROMANOW  
Director of Environmental Services

/s/  
JON CICIRELLI  
Acting Director of Public Works

For questions, please contact John Cannon, Principal Engineer, Department of Public Works, at (408) 635-4006.

Attachment



# Memorandum

**TO:** David Sykes

**FROM:** Kerrie Romanow  
Barry Ng

**SUBJECT:** SEE BELOW

**DATE:** October 17, 2017

Approved

Date

10/23/17

**SUBJECT: APPROVAL OF EARLY WORK PACKAGE 2 FOR THE DESIGN AND CONSTRUCTION OF THE COGENERATION FACILITY AT THE SAN JOSE-SANTA CLARA REGIONAL WASTEWATER FACILITY**

## RECOMMENDATION

Approve the Early Work Package 2 (EWP 2) Amendment to the Design Build Contract (Contract) with CH2M HILL Engineers, Inc. (CH2M) for civil site preparation and foundation work for the Cogeneration Facility at the San José-Santa Clara Regional Wastewater Facility<sup>1</sup> (RWF) in an amount not to exceed \$3,951,611 including a Design-Builder contingency in the amount of \$223,676.

## OUTCOME

City Manager's approval of the EWP 2 Amendment will allow for the civil site preparation and foundation construction work under the Contract for the Cogeneration Facility Project (Project). The early civil site work and foundation construction provide schedule certainty for these critical elements of the Project. In the event the City and CH2M are unable to agree on a Guaranteed Maximum Price (GMP) to complete the overall Project, the EWP 2 Amendment provides a concrete equipment pad where the engine generators may be delivered and securely stored until a different entity can complete the remainder of the project.

## BACKGROUND

In 2012, the City completed an Energy Management Strategic Plan that assessed the RWF's existing and future power demands and condition of the existing energy systems. The study

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

October 17, 2017

**Subject: Approval of Early Work Package 2 for the Cogeneration Facility at the San Jose-Santa Clara Regional Wastewater Facility**

Page 2

identified existing, aging cogeneration equipment as a critical issue that would need to be addressed to maintain onsite production of a reliable supply of power and heat. In 2013, the City engaged the consulting firm Black & Veatch Corporation (Black & Veatch) to prepare the Cogeneration Facility Project Definition Report (PDR), which served as the guiding document for the development of a basis of design for the new Cogeneration Facility.

On October 7, 2014, the City Council adopted Resolution No. 77180, approving the use of the design-build project delivery method for the Cogeneration Facility pursuant to State Law. Staff recommended using the design-build delivery method to complete the Project because of the potential for expedited project delivery, improved project coordination, potential cost savings, design innovation and efficiencies, and single point of contracting responsibility.

On April 26, 2016, the City Council adopted Resolution No. 77729 and 77730 authorizing the Contract with CH2M in an amount not to exceed \$5,656,000 for Preliminary Services, and authorizing the City Manager or his designee to negotiate and execute certain amendments and change orders related to the Contract, subject to budgetary constraints and appropriation of funds, including:

- Negotiate and execute a Definitive Contract Amendment to the Contract with CH2M with a GMP amount not to exceed \$82,884,000 for the design-build work to be performed following the preliminary design services;
- Approve a Design-Build Contingency in the amount of \$8,288,000; and
- Negotiate and execute separate agreements and/or amendments to the Contract to allow CH2M to proceed with discrete portions of the design-build work (i.e., Early Work Packages) prior to the City's execution of the Definitive Contract Amendment in a total amount not to exceed \$30,000,000, which amounts will be subject to the not to exceed GMP.

The Contract is a GMP contract, meaning that the City will pay CH2M on a defined cost-reimbursable basis subject to a maximum limit (i.e., the GMP), above which the City is not obligated to pay for services that are not otherwise subject to reimbursement under the Contract. The Contract's structure is generally outlined below:

1. The Contract provides for a fixed fee for the Preliminary Services, which includes a 30% and 60% design submittal and CH2M's Definitive Contract Amendment proposal (as described below).
2. After submitting its 60% design, CH2M is obligated to make a good faith proposal to the City in the form of the Definitive Contract Amendment which will include: (1) a Base GMP for the Design-Build Price, including Early Work Packages; (2) a schedule for completion of the Design-Build Work; (3) the technical specifications and guaranteed

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performance capabilities for the Facility, (4) the Transition Services and the fee to be charged therefore; (5) the insurance requirements for the Design-Build Work; and (6) amendment of other terms and conditions of the Contract necessary to accomplish the foregoing.

3. The Contract allows the parties to agree to separate agreements and/or amendments to the Contract to allow CH2M to proceed with discrete portions of the Design-Build Work ("Early Work Packages") prior to the City's execution of the Definitive Contract Amendment. Early Work Packages are expected to include: (1) procurement of the engine generators and gas treatment system (EWP 1 Amendment, as described below); (2) civil site preparation and foundation work (EWP 2); (3) design services to advance design from 60% to 100% (EWP 3).
4. If the parties reach agreement on the Definitive Contract Amendment, CH2M proceeds to final design and construction in accordance with the established Project schedule.
5. Should the parties fail to agree to the Definitive Contract Amendment, the City is under no obligation to proceed with any further work by CH2M, except as has been authorized by the Early Work Packages. The parties may, however, negotiate a separate agreement for CH2M to advance design to the 100% level so the City could solicit bids for the construction of the Project by a different entity.

On May 24, 2017, the City Manager approved EWP 1 Amendment to the Contract for procurement of engine generators and gas treatment equipment for the Project in an amount not to exceed \$24,411,351, including a Design-Builder contingency in the amount of \$966,084 and optional work in the amount of \$762,045. The early procurement of engine generators and gas treatment system equipment provides price and schedule certainty for this critical, long-lead time equipment. The engine generators are currently being manufactured and are expected to arrive on site in April 2018.

## **ANALYSIS**

CH2M is proceeding with design of the Project as part of Preliminary Services under the Contract. In consultation with City staff, CH2M led the process to develop a scope of work and pricing for the civil site preparation and foundation construction work for the Project. CH2M worked with their key subcontractor and teaming partner, C. Overaa & Co. (Overaa) to develop bid packages, obtain competitive bids from subcontractors and vendors, price work to be self-performed, and develop a cost model for this Early Work Package 2. Those efforts, and parallel design efforts under the Preliminary Services contract, resulted in a technical and cost submittal package for EWP 2 from CH2M, as required by the Design-Build Contract.

The EWP 2 technical and cost submittal from CH2M was reviewed by City staff and the City's Technical Support Services consultant, Black & Veatch, to assess the suitability of the proposed scope of work, evaluate the adequacy of the plans and specifications, and validate the proposed pricing in CH2M's cost model. The EWP 2 Amendment is priced as a GMP contract, meaning that the City will pay CH2M on a defined cost-reimbursable basis subject to a maximum limit (i.e., the GMP). The EWP 2 work will be covered by the City's Owner Controlled Insurance Program (OCIP) which was recently established for the RWF Capital Improvement Program (CIP).

### ***Project Risks***

The approval of the EWP 2 Amendment does come with some risk to the City. In the unlikely event the City and CH2M cannot agree to a GMP, and terminate the design-build contract for convenience, the City has the option to direct CH2M to complete the scope of work under EWP 2 Amendment. The decision on whether to complete the work under EWP 2 will be directly influenced by the City's decision regarding termination of EWP 1 for engine generators and gas treatment equipment.

For example, if the City decides to terminate the Design-Build Contract within the next few months, the City could elect to cancel the orders for the engine generators and gas purification system under EWP 1. In that case, the City would likely cancel EWP 2 work as well. If this were to occur, the City would be responsible for paying the compensation owed for design-build work performed as of the termination date plus reasonable costs incurred by CH2M for EWP 1 and EWP 2 as a result of the convenience termination.

If, however, the City decides to terminate the contract after the engines have been manufactured, the City would likely elect to complete the purchase of the equipment and transfer it to a new contractor to be procured later. In this instance, the City could decide to have CH2M complete the work under EWP 2, so that the concrete pad would be available for secure storage of the engine generators on-site until the project could be completed by a different entity.

To reiterate, it is unlikely that the City will terminate the agreement, but it is a possibility that has been factored into both the main Contract and EWP Amendments. Either of the termination options carries risk, and the EWP Amendments have been written to provide clarity, flexibility, and protection should either of these options be exercised. Staff believes that the EWP Amendments have been structured in a way to mitigate these risks to the extent possible. Of course, the overall goal of the project team is to remain on track, agree to an overall GMP, execute the Definitive Contract Amendment, and proceed to project completion.

The commencement of the foundation and underground work described in EWP 2 requires an Authority to Construct permit (ATC) from the Bay Area Air Quality Management District (BAAQMD). The ATC covers installation of the engine-generators and other emissions-generating equipment on the project. The permit application has been submitted, passed

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preliminary review and is under final review by the BAAQMD. Staff will wait for the ATC to be issued before authorizing the commencement of construction work in EWP 2. Staff expects the ATC to be approved in the coming weeks.

### **EVALUATION AND FOLLOW-UP**

The design effort has been on-going and CH2M has recently delivered updated 60% design documents. These are currently under review by staff. After submitting the 60% design, CH2M is obligated to make a good faith submittal to the City for a GMP to finalize the design and complete construction, commissioning and acceptance testing of the facility. This submittal is expected in November 2017. If the City accepts the submittal, the terms and conditions thereof would be incorporated into the Design-Build Contract through the Definitive Contract Amendment. If the parties are unable to reach agreement on the Definitive Contract Amendment, staff will return to City Council with a recommended course of action. This could include terminating the agreement with CH2M, completing the design, and bidding out the project. A progress report on this project will be made to the Transportation Environment Committee and the City Council on a semiannual basis. Monthly progress reports of the RWF CIP will also be submitted to the Treatment Plant Advisory Committee and posted on the City's website.

### **POLICY ALTERNATIVE**

***Alternative #1: Do not authorize Early Work Package 2 and wait to perform the work after the Project GMP and Definitive Contract Amendment have been negotiated.***

**Pros:** Defers underground construction until design has been further developed.

**Cons:** Risks of not meeting completion date, potential cost increase due to market escalation, and potential increased costs for off-site storage of engine generators.

**Reason for not recommending:** The Project would not be able to take advantage of the significant schedule and cost benefits of early construction if this alternative were selected. Schedule maintenance is a major concern, and the engines authorized under EWP1 are currently being manufactured and are expected to arrive on site in April 2018. If the foundations are not completed under EWP2, the City will incur the added cost of \$300,000 to offload the engines at a storage facility, pay monthly storage fees, then reload the engines and deliver them to the construction site when the foundations are ready, three months later. Also, existing cogeneration equipment at the RWF ranges from 20 to 60 years of age, and has been subject to breakdowns of increasing frequency and severity. This is made worse by delaying the completion of the Project. Finally, delaying the construction until after GMP will likely result in cost increases of nearly \$350,000 per month due to construction cost escalation.

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### **COORDINATION**

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

### **FISCAL/POLICY ALIGNMENT**

This Project is consistent with the Council-approved budget strategy to address rehabilitation and replacement of critical infrastructure and equipment at the RWF and to improve operational efficiency.

### **COST SUMMARY/IMPLICATIONS**

The City will pay CH2M on a defined cost-reimbursable basis subject to a maximum limit (i.e., the GMP), above which the City is not obligated to pay for services that are not otherwise subject to reimbursement under the Contract. The EWP 2 Base GMP not to exceed price for the civil site preparation and foundation construction package is as follows:

Construction Subcontractor Costs	\$ 2,819,105
Third Party Professional Services	\$ 75,000
Design-Builder Labor & Materials	\$ 197,486
Permitting and Permits	\$ 25,000
Bonds & Insurance	\$ 115,841
Subtotal: Design-Build Costs	\$ 3,232,432
General Conditions Fee (7.7% of All Design-Build Costs)	\$ 248,897
Design-Builder Fee (7.8% of Costs Excl. Bonds & Insurance)	\$ 246,606
Cumulative Subtotal: Base Design-Build Price	\$ 3,727,935
Design-Builder Contingency	\$ 223,676
EWP 2 Base Design-Builder GMP not to exceed	\$ 3,951,611

### **BUDGET REFERENCE**

Fund #	Appn #	Appn. Name	Total Appn.	2017-2018 Proposed Capital Budget Page	Last Budget Action (Date, Ord. No.)
512	7454	Energy Generation Improvements	\$71,369,000	268	06/20/2017 Ord No. 29962

The 2017-2018 CIP Budget was adopted by Council on June 20, 2017.

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Services performed by CH2M HILL under this Contract Amendment will be authorized by a Notice to Proceed. There is sufficient funding in the appropriation for EWP 2 in the adopted budget for 2017-2018. Future funding is subject to appropriation and, if needed, will be included in the development of future year budgets during the annual budget process.

**CEQA**

Mitigated Negative Declaration (MND), File No. PP14-005

The MND states that the proposed Project will not have significant effects on the environment, because mitigation measures have been made a part of the Project.

/s/  
BARRY NG  
Director, Public Works

/s/ Ashwini Kankar for  
KERRIE ROMANOW  
Director, Environmental Services

For questions, please contact John Cannon, Principal Engineer, Department of Public Works, at (408) 635-4006.



