San José-Santa Clara Regional Wastewater Facility

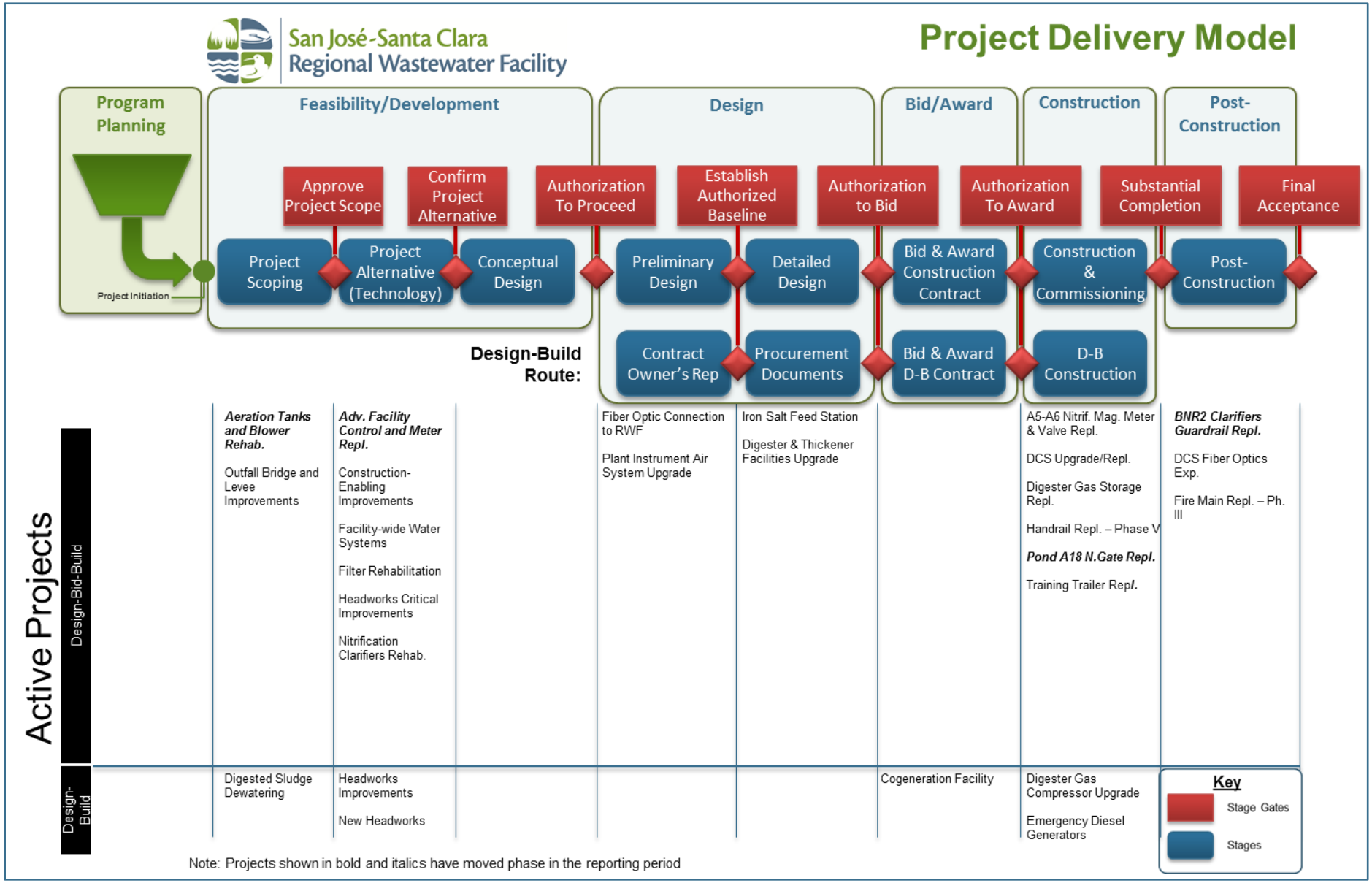
Capital Improvement Program
Monthly Status Report for May 2015

July 9, 2015

This report provides a summary of the progress and accomplishments of the Capital Improvement Program (CIP) for the San José-Santa Clara Regional Wastewater Facility (Wastewater Facility or RWF) for the period of May 2015.

Report Contents

Project Delivery Model



Program Summary

May 2015

In the month of May, the CIP progressed on multiple fronts including the advancement of programmatic studies and projects through stage gates of the Project Delivery Model (PDM) process. In particular, the Advanced Facility Control and Meter Replacement Project passed the "Approve Project Scope" stage gate this month.

The Biosolids Transition Strategy was approved by the Treatment Plant Advisory Committee (TPAC) on May 14th. The revision addressed feedback provided from TPAC and City Council last year and remains consistent with the Plant Master Plan goals which included the implementation of a new full-scale dewatering facility and retirement of the existing lagoons and drying beds. The strategy will be presented to City Council for approval in June. The RWF Ten-Year Funding Strategy and the 2016-2020 Proposed CIP were also approved by TPAC. These will be presented to City Council for approval in June.

A consultant Request for Qualifications (RFQ) was issued this month for the Filter Rehabilitation Project. The technical evaluation panel for the Cogeneration Facility Project also began reviewing Statements of Qualifications (SOQs) for Technical Support Services this month.

The Digester and Thickener Facilities Upgrade Project reached the 60% design milestone this month. In May, the CIP team began evaluating project design reviews, including Value Engineering and HAZOP studies and this will continue into June.

The Environmental Team developed and implemented our Mitigation, Monitoring and Reporting Program (MMRP) on both current and future projects. The Iron Salt Feed Station Project Initial Study/ Mitigated Negative Declaration was posted on the City of San José Planning website for public review.

Emergency repair work progressed on the Pond A18 northern gate structure with the new sheet pile dams installed this month. Construction continued at the RWF for a number of CIP projects including the Emergency Diesel Generators, Digester Gas Compressor Upgrades, and the Digester Gas Storage Replacement projects.

Beneficial Use was achieved this month on BNR2 Clarifiers Guardrail Replacement.

Look Ahead

In June, CIP staff will continue to move forward on numerous efforts related to consultant and design-build procurements, including the Cogeneration Facility, Headworks Improvements, New Headworks, Facility-wide Water Systems Improvement, Filter Rehabilitation, and Nitrification Clarifiers Rehabilitation. RFQs will be issued on the Facility-wide Water Systems Improvement Project, with SOQ documents scheduled to be returned on the Cogeneration Facility (Design-Build Entity) and Headworks projects next month.

A Stage Gate meeting will be held for the Fiber Optic Connection to RWF Project to approve advancing the project through the "Authorization to Bid" stage gate. Three of the twelve programmatic studies initiated last year will also pass through the "Final Acceptance" Stage Gate next month

The CIP team also anticipates that the Iron Salt Feed Station Project will reach the 90% Design Stage Milestone in June.

CIP staff will continue to develop programmatic funding and insurance strategies, including the evaluation of the overall funding strategy, review of the Clean Water State Revolving Fund (SRF) project applications and evaluation of the applicability of an Owner Controlled Insurance Program (OCIP).

In June, the Support Building Improvements Project will be initiated, and work will recommence on the Digested Sludge Dewatering Facility, pending Council approval of the Biosolids Transition Strategy.

Program Highlight – Monthly Reporting

Reporting is an essential component of the Program because it collects and distills project and program data to allow a comparison of actual performance against measurable, agreed-upon performance metrics. These metrics benefit the CIP because they promote actionable information, help inform decisions, demonstrate trends, identify root causes and assist in stakeholder communication. These same metrics are also used as the source of data for the Key Performance Indicators (KPIs) presented in this report ensuring consistency and continuity of reporting at all levels.

Each month, the Program Controls Team initiates a six-week reporting cycle culminating in the issue of the CIP Monthly Status Report. Given the six-week length of each cycle this results in two reporting cycles overlapping within a single month (i.e. the next month's reporting cycle begins in Week 4 of the current cycle).

At the start of the reporting cycle, Week 0, the Program's budget analyst runs a series of financial reports and provides the data to the program controls team. During Weeks 1 and 2, the Program Controls Team works with the project managers and construction managers to update project-specific cost and schedule data. In Week 3, the Program Controls Team analyzes this data, evaluates it against the CIP performance criteria and presents the data in reports and charts. Package managers then meet with their project managers to discuss and evaluate individual projects against these performance outputs. Any variances to planned project performance are identified and corrective actions agreed. In Week 4, the leadership team evaluates the program's performance and discusses the path forward. This reporting effort culminates in the production of the CIP Monthly Status Report which is issued to TAC and TPAC members during Week 6, the last week of the reporting cycle. By Week 6, the next month's reporting cycle is already in its second week of production.

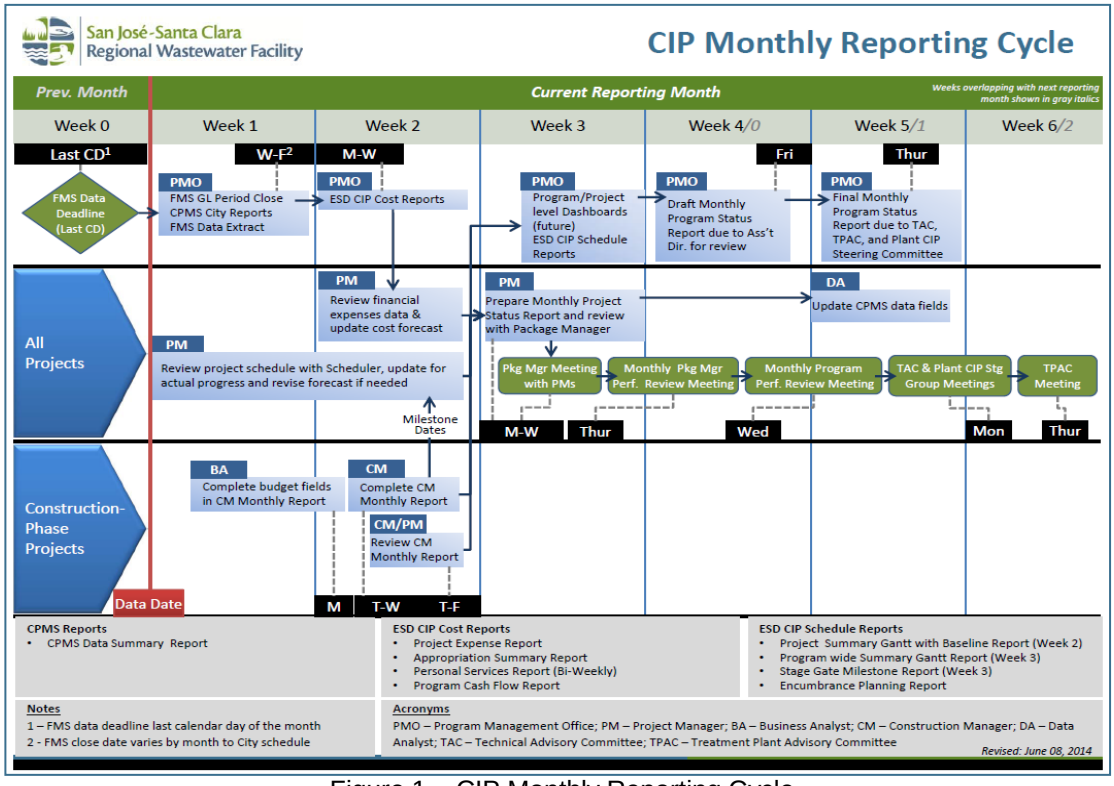


Figure 1 – CIP Monthly Reporting Cycle

Program Performance Summary

Seven KPIs have been established to measure the overall success of the CIP. Each KPI represents a metric which will be monitored on a regular frequency. Through the life of the CIP, KPIs will be selected and measured which best reflect the current maturity of the program. The target for the seventh KPI "Staffing Level" KPI will be established as part of the analysis of future staffing needs.

Program Key Performance Indicators – Fiscal Year 2014-2015

KPI Description	Target	Actual	Status	Trend	Measurement
Schedule[1]	85%	100% (5/5)			Percentage of CIP projects delivered within 2 months of approved baseline Beneficial Use Milestone. ***Target: 85% of projects delivered within 2 months of approved baseline schedule or better.***
Budget[2]	90%	75% (3/4)			Percentage of CIP projects that are completed within the approved baseline budget. ***Target: 90% of projects delivered are within 101% of the baseline budget.***
Expenditure[3]	≥$95.6M	$93.1M			Total CIP actual + forecast committed cost for the fiscal year compared to CIP fiscal year budget. ***Target: Forecast committed cost meets or exceeds 60% of budget for Fiscal Year 14/15 (60% of $159.3M= $95.6M)***
Procurement	100%	100% (7/7)			Number of actual + forecast consultant and contractor procurements compared to planned for the fiscal year. ***Target: Forecast /actual procurements for fiscal year meet or exceed planned.***
Safety	0	0			Number of OSHA reportable incidents associated with CIP construction for the fiscal year. ***Target: zero incidents.***
Environment/Permits	0	0			Number of permit violations caused by CIP construction for the fiscal year. ***Target: zero violations.***
Staffing Level[4]	TBD	TBD	TBD	TBD	Percentage of authorized staffing level ***Target: to be determined***

KEY:

 **Meets or exceeds KPI target**

 **Does not meet KPI target**

Notes

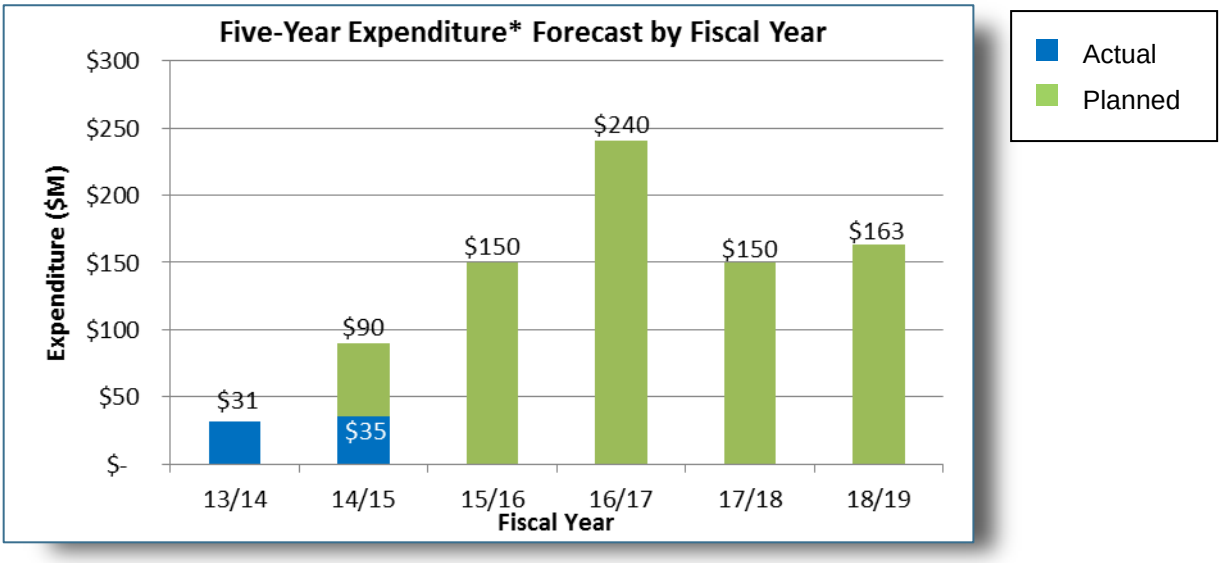
1. For the Schedule KPI, the number of completed projects increased from four to five. This count includes BNR2 Clarifiers Guardrail Replacement, which reached Beneficial Use in May 2015.
2. For the Budget KPI, three out of four projects were completed within the approved baseline budget. The three projects are 115KV Circuit Breaker Replacement (accepted in October 2014), RWF Street Rehabilitation – Phase III (accepted in March 2015), and Filtration Building B2 & B3 Pipe and Valve Replacement (accepted in May 2015). Dissolved Air Flotation Dissolution Improvements project finished 7% over budget.
3. FY14-15 budget excludes reserves, ending fund balance, South Bay Water Recycling, Public Art and Urgent and Unscheduled Rehabilitation items.
4. Staffing level KPI measured quarterly; all other KPIs measured monthly.

Program Cost Performance

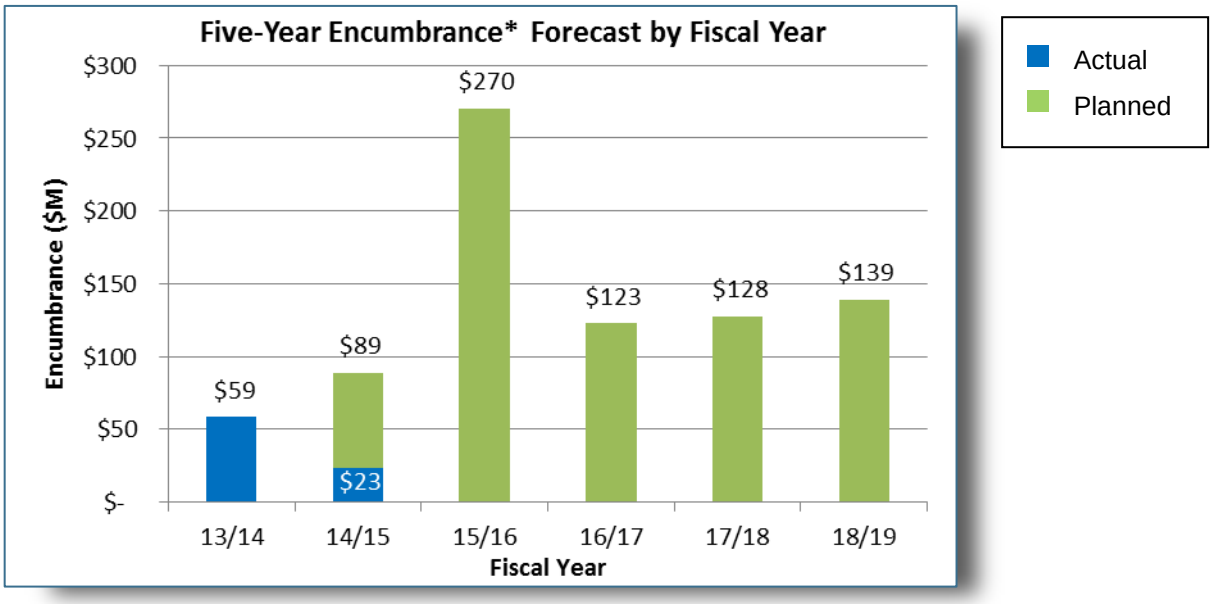
This section provides a summary of CIP cost performance for all construction projects and non-construction activities for FY13-14 and the 2015-2019 CIP.

Adopted 2015-2019 CIP Expenditure and Encumbrances

To accommodate the proposed increase in expenditures and encumbrances over the next five years, the City is developing a long-term financial strategy to fund the needed, major capital improvements while minimizing the impact to ratepayers.



*Expenditure defined as: Actual cost expended associated with services and construction of physical asset which may include encumbered amounts from previous years



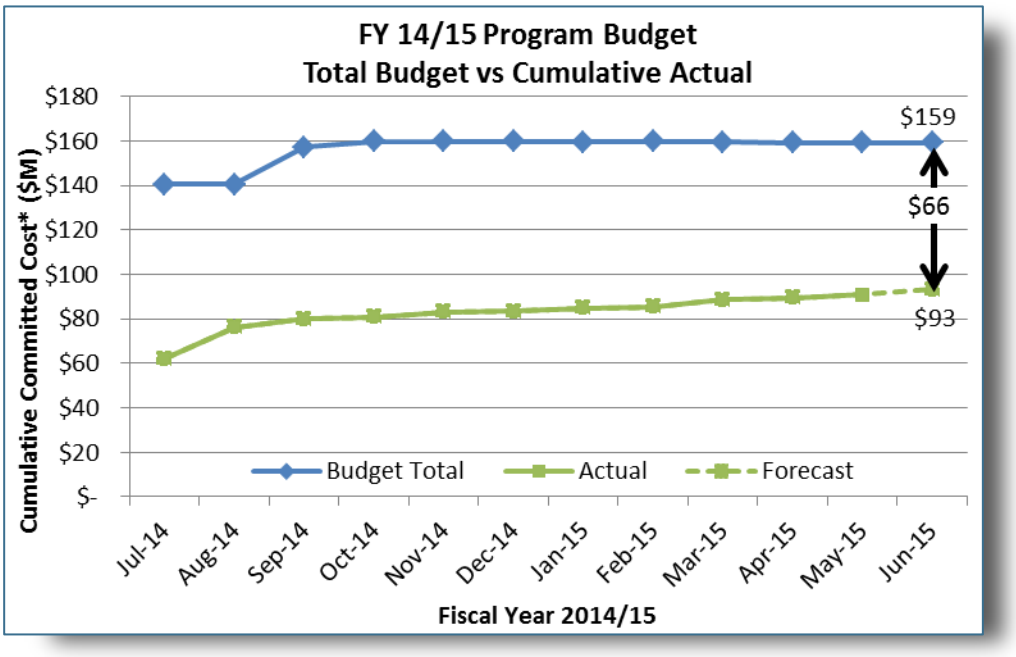
*Encumbrance defined as: Financial commitments, such as purchase orders or contracts, which are chargeable to an appropriation and for which a portion of the appropriation is reserved

Fiscal Year 2014-2015 Program Budget Performance

The fiscal year program budget is $159 million. The budget amount of $159 million represents the 2014-2015 budget of $107 million plus carryover of $52 million. The budget amount excludes reserves, ending fund balance, South Bay Water Recycling, Public Art and Urgent and Unscheduled Rehabilitation items.

The projected year-end variance of approximately $66 million is primarily due to the following reasons:

- Award of the Cogeneration Facility design-build contract and technical support services agreement are now expected in FY15-16 ($24 million).
- Award of construction contracts for the Iron Salt Feed Station, Plant Instrument Air System Upgrade, and Switchgear S40/G3 Relay Upgrade projects are anticipated in FY15-16 ($18 million).
- Award of a design contract for critical rehabilitation work in the Headworks Improvements is expected in FY15-16 ($4 million).
- Work not yet initiated or re-programmed into later years for Secondary and Nitrification Clarifier Rehabilitation and Aeration Tanks and Blower Rehabilitation ($4 million).
- Lower than expected expenditures and encumbrances in Equipment Replacement, Preliminary Engineering, and Program Management ($4 million).
- Award of a design contract for the Advanced Facility Control and Meter Replacement project has been removed from the forecast while the project team reevaluates the scope to determine the best way to implement the project ($2 million).
- Lowered forecasts for consultant services for the Emergency Diesel Generators, Fiber Optic Connection to RWF, and Plant Instrument Air System Upgrade projects ($2 million).
- Miscellaneous project balances across 18 projects ($8 million).



*Committed costs are expenditures and encumbrance balances, including carryover (encumbrance balances from the previous fiscal year).

Project Performance

There are currently 11 active projects in the construction or post-construction phase with a further 15 projects in feasibility/development, design or bid and award phases (see PDM graphic at the front of this report). All active projects are listed in the tables below. Projects in the construction phase have cost and schedule baselines established and are monitored using the City's Capital Project Management System (CPMS). These projects have green/red icons included in the table below to indicate whether they are on budget and schedule using the CPMS data as a source.

Project Performance – Baselined Projects

Project Name	Phase	Estimated Beneficial Use Date[1]	Cost Performance[2]	Schedule Performance[2]
Distributed Control System (DCS) Fiber Optics Network Expansion	Post-Construction	May 2014[3]	●	●
Fire Main Replacement - Phase III	Post-Construction	Apr 2015[3]	●	●
BNR2 Clarifier Guardrail Replacement	Post-Construction	May 2015[3]	●	●
Pond A18 Northern Gate Structure	Construction	Jul 2015	●	●
Training Trailer Replacement	Construction	Jul 2015	●	●
A5-A6 Nitrification Mag. Meter & Valve Replacement	Construction	Aug 2015	◆	◆
Handrail Replacement - Phase V	Construction	Aug 2015	●	◆
Digester Gas Storage Replacement	Construction	Sep 2015	●	◆
DCS Upgrade/Replacement	Construction	Jun 2016	●	●
Emergency Diesel Generators	Construction	Aug 2016	●	●
Digester Gas Compressor Upgrade	Construction	Sep 2016	●	◆

KEY:

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

Notes

1. Beneficial Use is defined as when the work is sufficiently complete, in accordance with the contract documents, so that the City can occupy or use the work. Beneficial use dates are being 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 Date[1]
Cogeneration Facility	Procurement	Jan 2019
Fiber Optic Connection to RWF	Design	Mar 2016
Iron Salt Feed Station	Design	Nov 2016
Plant Instrument Air System Upgrade	Design	Jan 2018
Digester & Thickener Facilities Upgrade	Design	Sep 2018
Construction-Enabling Improvements	Feasibility/Development	Oct 2016
Headworks Critical Improvements	Feasibility/Development	Apr 2017
Adv. Facility Control & Meter Repl. Ph. 2	Feasibility/Development	Sep 2019
Outfall Bridge and Levee Improvements	Feasibility/Development	Feb 2021
Headworks Improvements	Feasibility/Development	Mar 2021
Facility-wide Water Systems Improvements	Feasibility/Development	Sep 2021
Digested Sludge Dewatering Facility	Feasibility/Development	Dec 2021
Filter Rehabilitation	Feasibility/Development	Jan 2022
Nitrification Clarifiers Rehabilitation	Feasibility/Development	Apr 2022
New Headworks	Feasibility/Development	Jun 2022

Notes

1. Beneficial Use is defined as when the work is sufficiently complete, in accordance with the contract documents, so that the City can occupy or use the work. Beneficial use dates are being reviewed as part of project schedule reviews.

Significant Accomplishments

Biosolids Package

Biosolids Transition Strategy

CH2M Hill completed its evaluation of the odor impacts of the existing sludge lagoons and drying beds operations and identification of alternatives for upgrading the existing lagoons to meet odor goals. Program staff also presented the findings and recommendations at TAC and TPAC meetings on May 11th and 14th, respectively. In June 2015, staff will present the odor and cost information for the updated Biosolids Transition Strategy to the City Council.

Digester and Thickener Facilities Upgrade

The detailed design of the digesters and dissolved air flotation tanks continued this month. Brown and Caldwell (B&C), the design consultant, submitted the final 60% design documents for review and comments. In addition, B&C conducted three workshops that presented the design details to the operations and maintenance (O&M) and CIP staff. Construction cost estimates were also updated and submitted to the City this month.

Facilities Package

Cogeneration Facility

CIP staff received SOQs for the Technical Support Services consultant from three firms on May 19th. Evaluations are underway and a selection will be made in early June. The RFQ for design-builders is posted on the City's BidSync procurement page and submittals are due in early June.

Pond A18 Northern Gate Structure Emergency Replacement

The cofferdam installation is nearing completion. The timber materials are currently being manufactured and will be delivered in mid-June.

Liquids Package

Advanced Facility Control and Meter Replacement

The project passed the Approve Project Scope stage gate in May, and is currently in the RFQ development phase.

Filter Rehabilitation

The project team finalized the RFQ. Submittals are due in July. CIP staff anticipates bringing the agreement to TPAC and City Council for consideration in Fall.

Headworks Improvements and New Headworks

On April 27th, the City advertised an RFQ for planning, design, owner's representative, and construction management services. A non-mandatory site walk was also held on May 14th. All SOQs are due on June 3rd. CIP staff anticipates that they will bring the agreement to TPAC and City Council for consideration in October.

Iron Salt Feed Station

In May, CIP staff received approval for the design consultant scope and fee amendment. The 90% submittal is scheduled for delivery on June 19th. The Iron Salt Feed Station Project Initial Study/ Mitigated Negative Declaration was posted on the City's Planning website for public review.

Aeration Tanks and Blower Rehabilitation

The Blower Evaluation Study continued this month. The objective of this study is to analyze the options for near-term Blower improvements. The project was presented and initiated at the CIP and O&M Coordination Meeting on May 22nd and the initial Project Scoping Workshop was held on May 29th.

Programmatic Studies

Aeration Demands and Biosolids Production Assessment

Carollo Engineers completed the draft technical memoranda related to aeration demands and biosolids production, which were circulated to O&M and CIP staff for review. Comments were returned to the consultant. The final aeration demands and biosolids production workshop and Biowin training session were conducted this month. The study remains on schedule for completion in June.

Facility-wide Heating and Cooling Systems Evaluation

A second workshop was conducted on May 13th. On April 29th, Brown and Caldwell submitted a final Technical Memorandum (TM) 1 which summarized the existing and preliminary future heating and cooling systems supply and demand for the RWF. The consultant submitted TM 2, which addressed the alternatives available for supplying sufficient heat to the planned thermophilic digesters if the cogeneration facility comes online after the digesters are rehabilitated. The PM has scheduled a final acceptance stage gate for June 4th. The study remains on schedule for completion in June.

Flood Protection Study

CIP staff issued a Notice to Proceed to AECOM to begin the study. Public Works staff completed survey work that collected elevation data at manholes. The study is expected to be completed in December 2015.

Odor and Corrosion Control Study

The study team conducted odor and water quality sampling at Pond A18. The study included dispersion modeling data for two alternate odor fence lines. CH2M Hill submitted the draft final report for review. The study remains on schedule for a June completion. Additionally, the Final Stage Gate meeting is scheduled for mid-July. The findings of the Study will be presented to Council in late Summer/early Fall.

Yard Piping Condition Assessment Plan

Black and Veatch (B&V) submitted two draft tech memoranda for review in May including the condition assessment protocol and the yard piping condition assessment plan. The Condition Assessment Protocol provides a consistent and repeatable approach to conducting condition assessments at the RWF. The condition assessment plan provides scopes of work, cost estimates for field inspection and a recommended schedule for priority piping inspections at the RWF. It also provides recommendations on procurement options for condition assessment and rehabilitation of pipes. B&V also submitted a final draft of the Condition Assessment Plan and provided training. Additionally, CIP staff held a training session for the study's risk model and the technology review tool. The study is scheduled for completion in June.

Explanation of Project Performance Issues

A5-A6 Nitrification Magnetic Meter & Valve Replacement

In September 2014, during startup, the project team discovered that the actuators that had been specified and installed were incompatible with the available power supply. Engineering staff determined it would be more costly to modify the system than to order and install compatible actuators. In addition, O&M staff requested that the actuators match those used in the other clarifiers. The City continues to work with the contractor and is considering other options to resolve the actuator issue and complete the project. Beneficial use is expected by the end of August 2015.

Handrail Replacement - Phase V

The Aeration Basin 1 handrail replacement material submittal and review process extended into the wet weather season, when several of the secondary aeration tanks are required for process capacity. Typically, aeration basin repairs cannot occur prior to April 15th because the rainy season requires that basins remain available in the event of heavy rains. Work had originally been planned to commence in May after the rainy season ended and the basin could be drained for safety reasons, but was further delayed until June due to additional work occurring in the basin at that time. With the handrail replacement, which requires a side-mounted installation (i.e., within the tanks), the contractor had to not only wait for the tank to be drained but was further delayed because of maintenance repairs to diffusers that also needed to take place in May and which subsequently made the project site unavailable to the contractor. Furthermore, RWF Maintenance is currently making much-needed mechanical repairs to three of the aeration tanks (B1, B2, and B3). Handrail replacement work is expected to resume when the remaining basin becomes available. Operational schedule constraints added an additional 257 days to the construction duration, which has extended the expected beneficial use date to late August. The project is currently 90% complete and no additional costs related to the time extension are expected.

Digester Gas Compressor Upgrade

During the course of the design portion of this design build project, it was determined that some of the equipment for this project would need to meet the explosion-proof classification of Class 1, Division 1 of the National Electric Code. This classification was more stringent than what was originally called for in the bid documents. Cost and schedule impacts were received from contractor, Anderson Pacific. A provisional three-month delay has been estimated based on the delivery schedule for the new motors. Council approval for additional project funding due to motor upgrade is anticipated during its June 16, 2015 session. Beneficial Use is expected by September 2016.

Digester Gas Storage

During a comprehensive review of the gas storage tank design submittal by the design consultant, Brown & Caldwell, it was identified that the removable piston legs used in the proposed design by the sub-contractor did not meet the design standards and would have caused problems in the intended use of the tank. As a result, the sub-contractor re-designed the tank with permanent piston legs with a subsequent delay in mobilization until the re-design of the tank was reviewed and approved. The re-design was subsequently completed and has been approved. The contractor has also submitted a revised schedule which included a justification for delays in both the tank submittal review and associated material delivery. Additionally, the contractor is working with the subcontractor on a recovery plan. Despite the project schedule delay, the construction cost has not been impacted. Beneficial Use is expected by September 2015.

Project Profile

Advanced Facility Control and Meter Replacement

The RWF relies on devices such as flow meters and valve actuators for effective flow management and measurement. The meters and actuators are components of a sophisticated control process that provide RWF staff with the ability to automate and remotely operate many of the unit processes. Consequently, reliable and accurate operability of this equipment is paramount to the day to day success of the RWF. Many of the existing flow meters and actuators were originally installed in the 1970s, and are becoming increasingly difficult to repair or replace due to a decreased availability of outdated parts and a reduction in component manufacturer support.

In 2014, the CIP Staff implemented a review to inventory and analyze all the existing flow meters and actuators, which resulted in a prioritization for repair or replacement. This review involved a high level of engagement from RWF O&M staff, along with CIP engineers. The collaborative effort brought together hands on day-to-day O&M experience and a sound technical engineering approach to develop a much needed project. The Advanced Facility Control and Meter Replacement Project intends to implement a facility-wide meter validation and replacement in addition to a process control and automation upgrade. The Project is broken up into two distinct phases. The first phase will be to replace flow meters and actuators that have been designated in need of critical repair, approximately 160 flow meters and 50 actuators. The second phase involves the replacement of the remaining flow meters and actuators, approximately 35 flow meters and 35 actuators, as well as process control and automation upgrades.

The project's objective is to improve RWF reliability, mitigate failure risk, and leverage new technology to improve automation and process control while replacing obsolete equipment. In addition, the project will result in an operational costs savings by minimizing maintenance requirements. The project is proceeding with the procurement of a design consultant, which is anticipated to take place by the end of 2015. Once a consultant is in place, the design and construction of the Phase 1 improvements will be initiated. Figure 2 below identifies specific areas within the RWF that have been designated for flow meter and actuator replacement.

Project Budget: $15 million

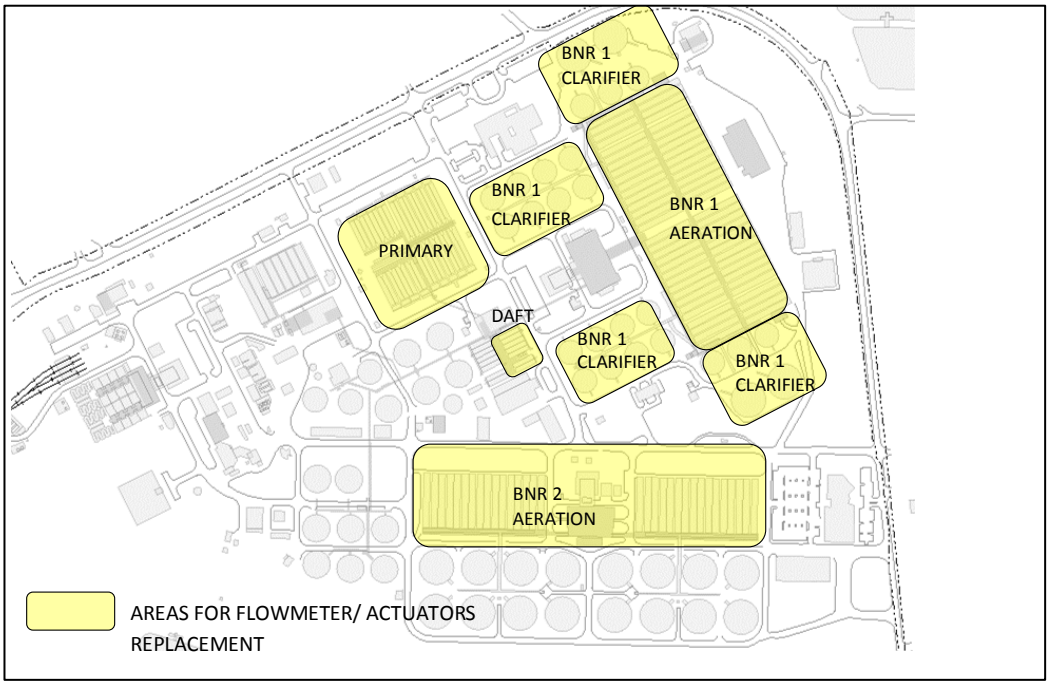


Figure 2 Facility Location Map

Figure 3: Nitrification Aeration Tank Anaerobic Air Valve

Figure 4: Nitrification Flow Clarifier A-4 Limitorque

Page intentionally left blank

Regional Wastewater Facility Treatment – Current Treatment Process Flow Diagram

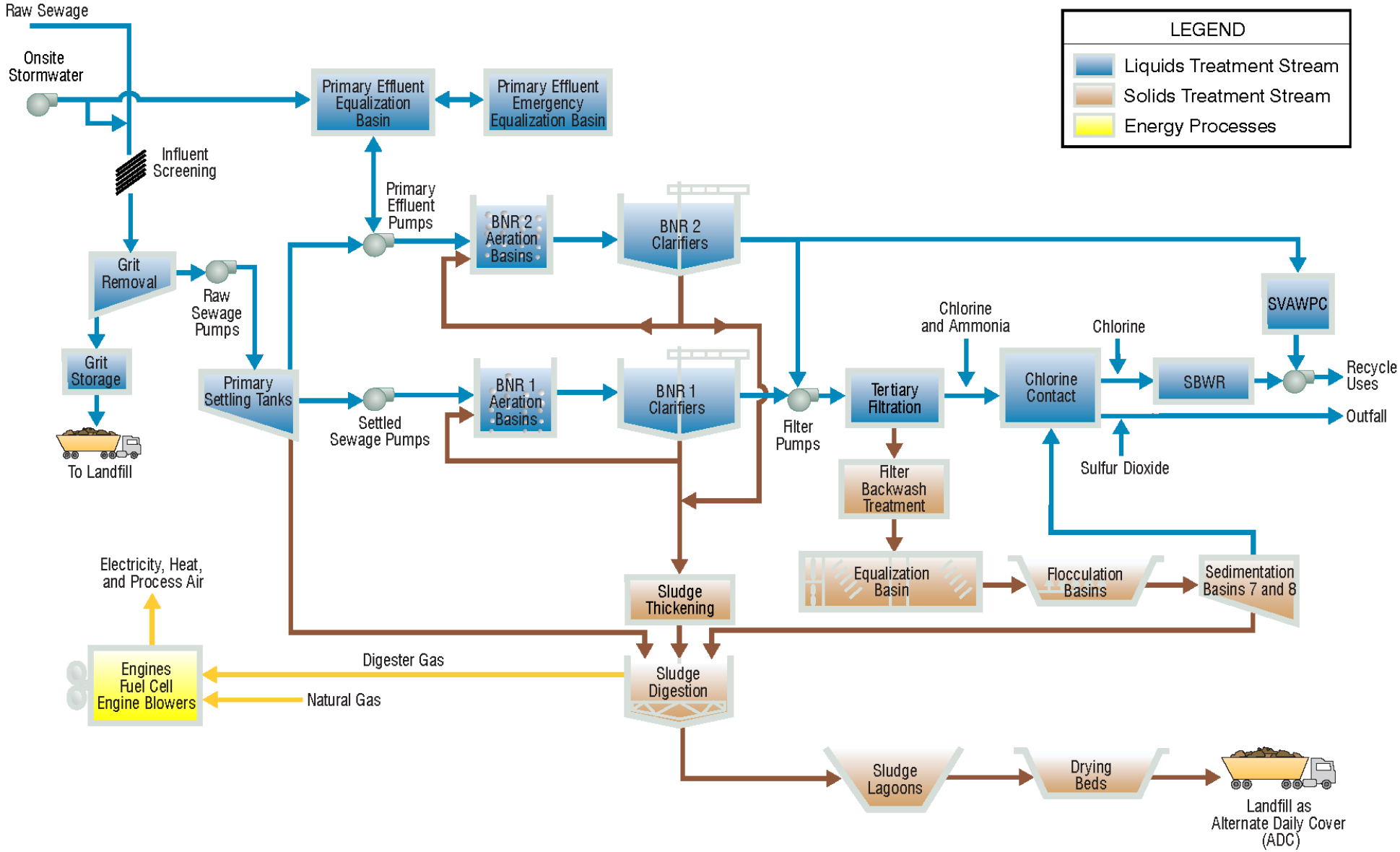


Figure 5—Current Treatment Process Flow Diagram

Regional Wastewater Facility Treatment – Proposed Treatment Process Flow Diagram

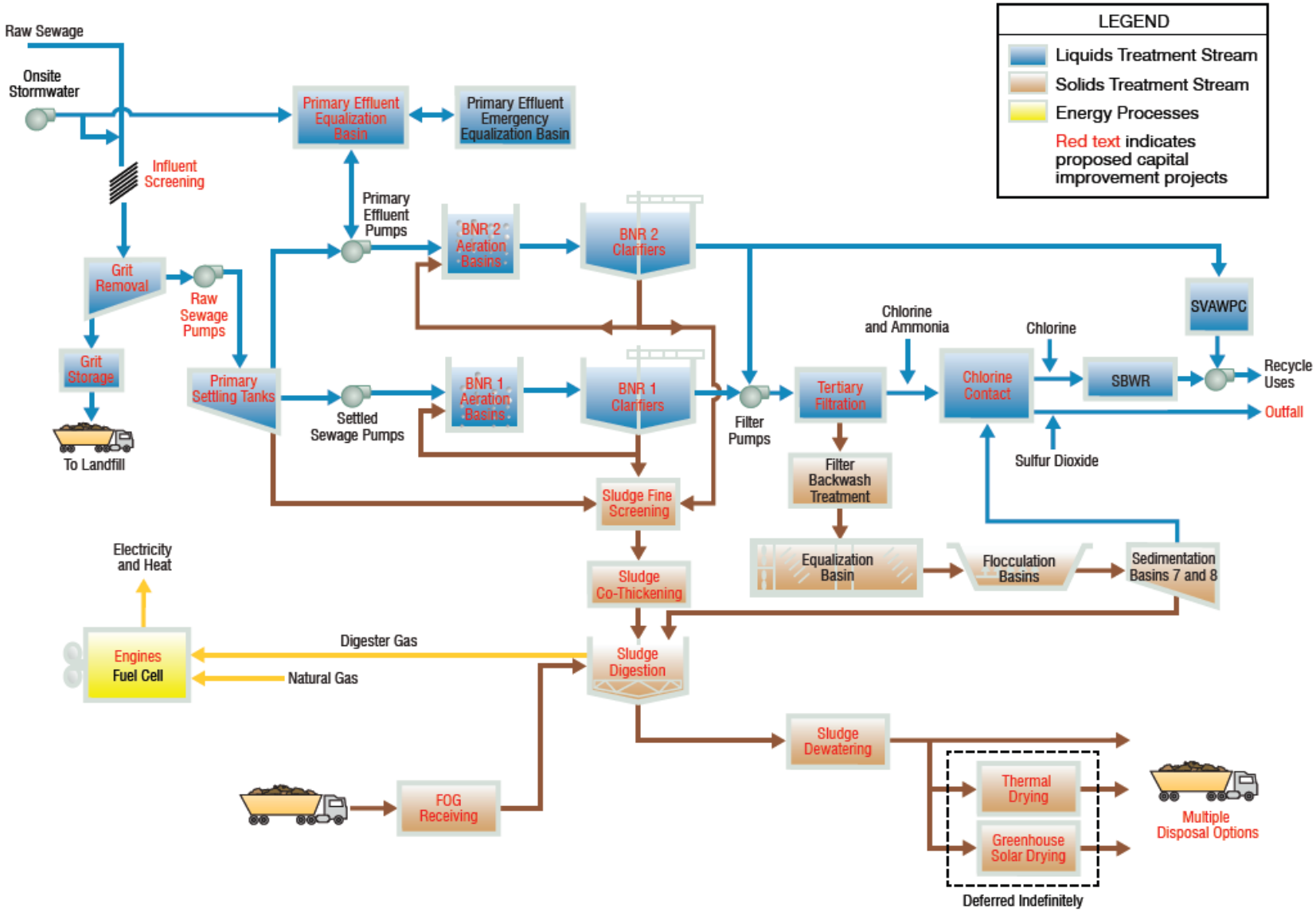


Figure 6—Proposed Treatment Process Flow Diagram

Active Construction Projects – Aerial Plan

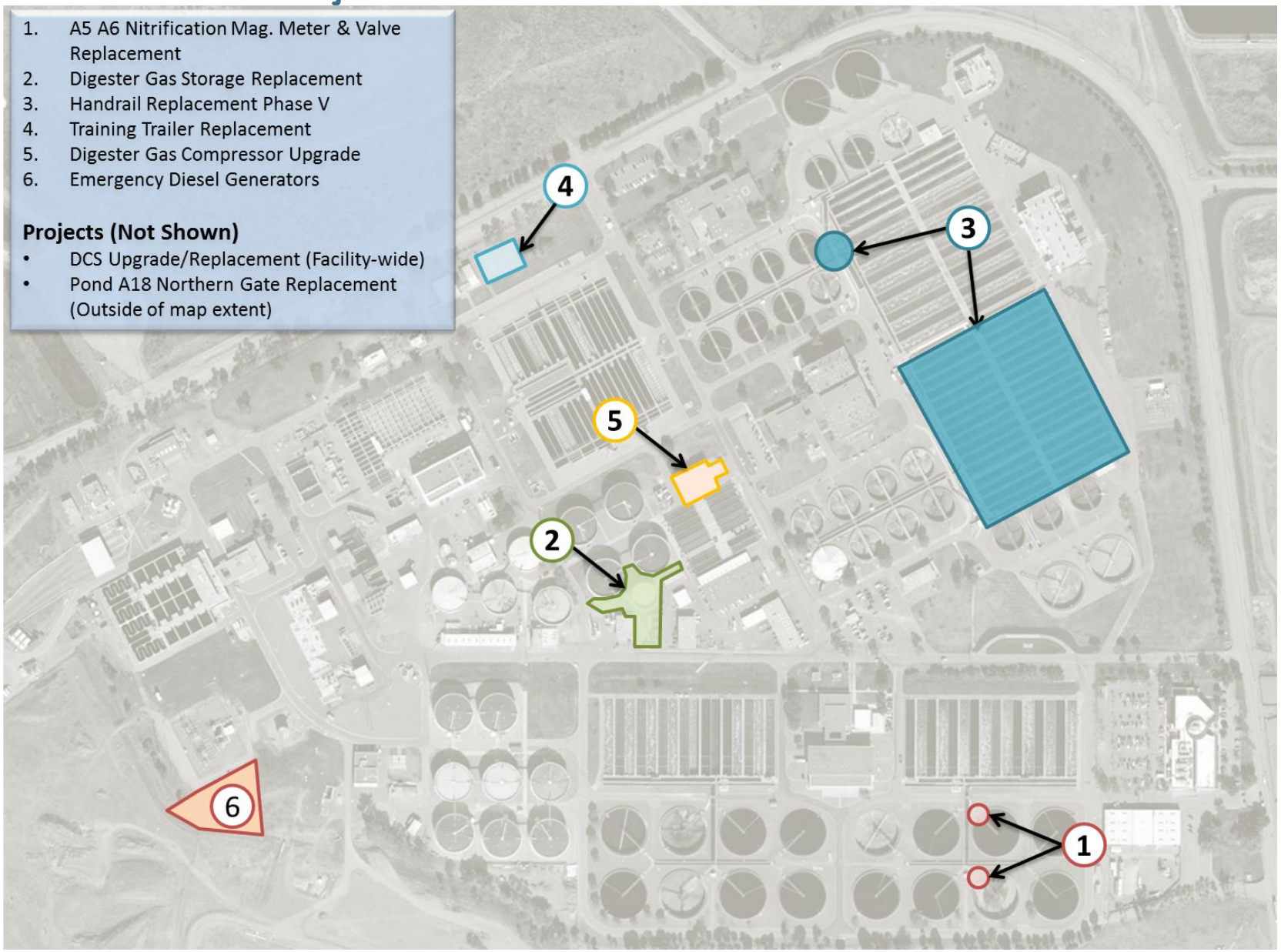


Figure 7—Active Construction Projects