San José-Santa Clara Regional Wastewater Facility

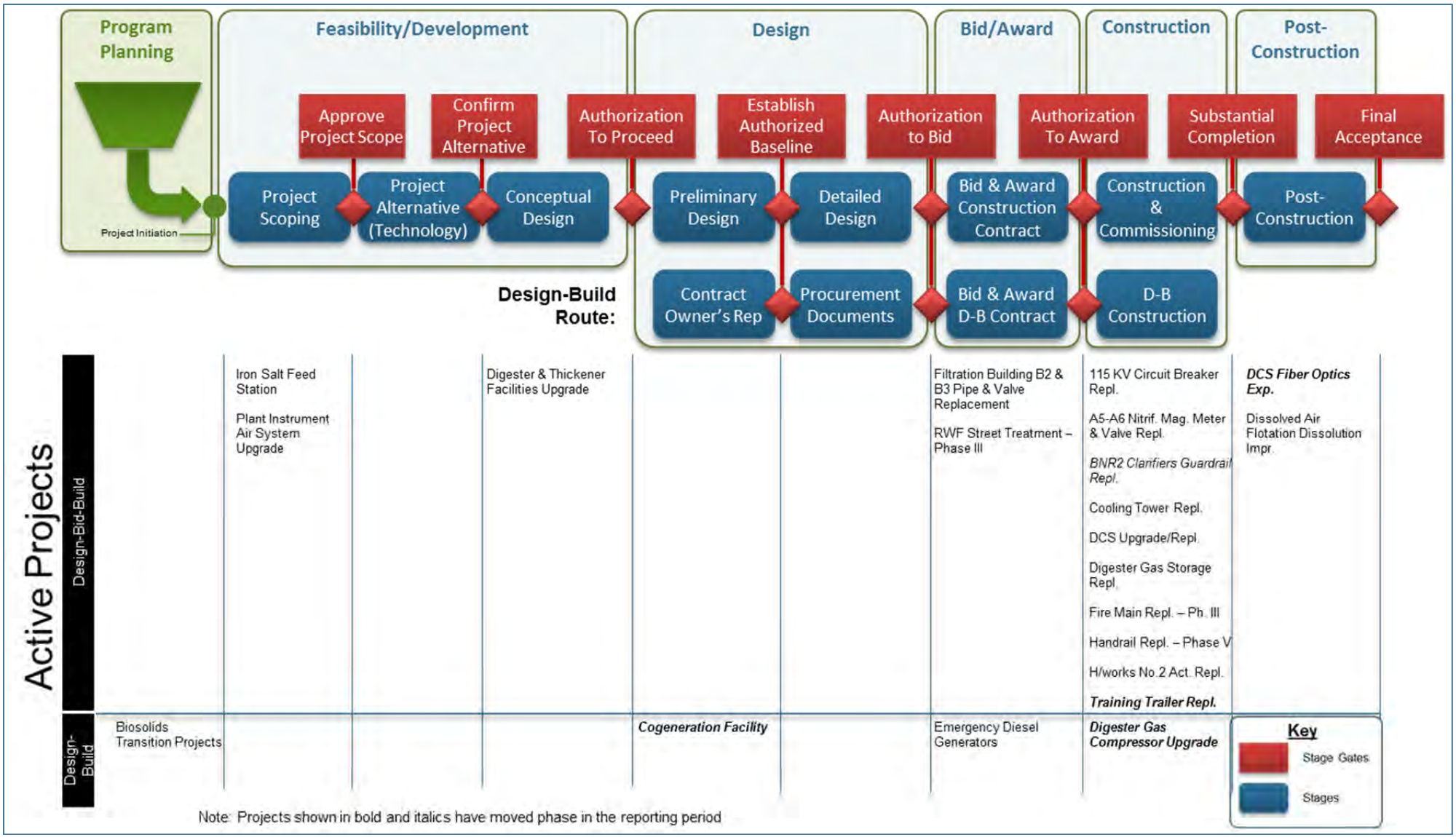
Capital Improvement Program
Monthly Status Report for May 2014

July 10, 2014

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") for the period of May 2014.

Report Contents

Project Delivery Model



Program Summary

May 2014

In 2008 the Wastewater Facility undertook a Plant Master Plan (PMP) effort which ultimately resulted in its adoption in November 2013. The Project Validation process held between October 2013 and January 2014 reviewed the projects identified in the Plant Master Plan in order to develop a five-year and ten-year CIP. This monthly report provides a summary of the progress and accomplishments of the CIP for the month of May 2014 within Fiscal Year 2013-2014.

In the month of May the focus was on driving implementation of our program tools and processes on all existing projects, recruiting new staff to fulfill our future resource needs for the CIP Program, moving forward with nine key programmatic studies, and developing the next fiscal year service orders for the program work. We held our first "stage gate" meetings on projects (see Program Highlight below), as part of our Project Delivery Model (PDM, see page 2 of this report). On May 2nd, staff hosted a tour of the Regional Wastewater Facility by attendees of the California Water Environment Association, which held its annual conference in Santa Clara this year. On May 21st, we held a workshop with CIP engineers and O&M staff to further develop our project collaboration.

We presented updates at regular meetings to the Transportation & Environment Committee on May 5th, the Technical Advisory Committee (TAC) on May 12th, and the Treatment Plant Advisory Committee (TPAC) on May 15th. On May 20th, program staff met with representatives from the Bay Area Air Quality Management District to discuss future air permitting requirements.

Look Ahead

In June, we will continue to reinforce the use of our processes and tools. We will roll out a training site on our CIP Portal (our web-based SharePoint platform) to further support staff's use of our Program Execution Plan (PEP) and PDM. In addition, we will continue to implement the Stage Gate process (see below). Recruiting will also continue at a fast pace to fill existing vacancies. We will finalize the service orders associated with program work for the next fiscal year.

Program Highlight – Stage Gates

The PDM lies at the heart of the program's standardized approach to project delivery. Every project, no matter how large or small, must go through the PDM process. Within the PDM, we hold specific decision-making meetings, called "stage gates," to review a project's progress and determine whether the project is allowed to proceed to the next stage. At stage gate meetings, the project manager summarizes a project's progress and makes a case for having the project proceed. The Stage Gate Panel, consisting of senior Environmental Services Department (ESD) and program staff, has a chance to question project progress and then ultimately vote on whether to pass the project on to the next stage. The result is decisions that are both visible and resilient.

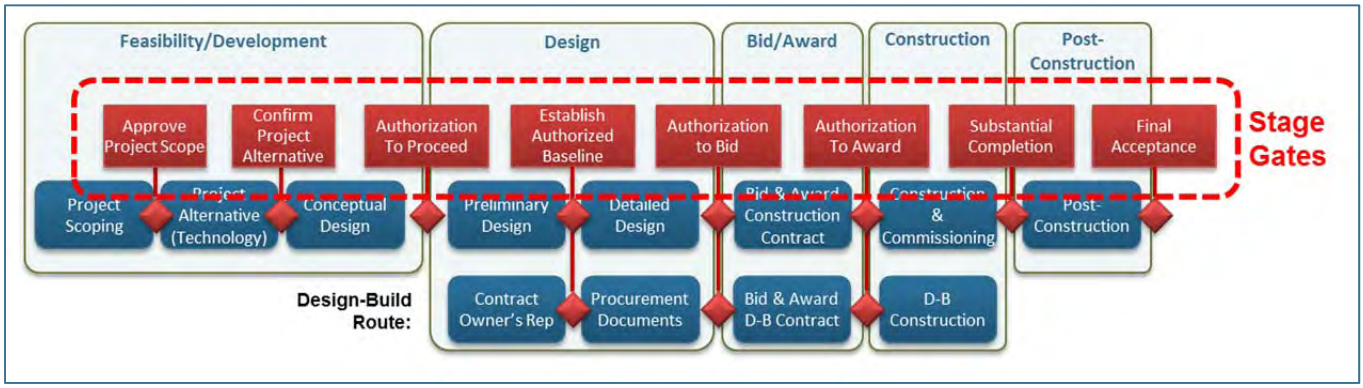


Figure 1—Stage Gates provide visibility and buy-in within the Project Delivery Model

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. In this report, six of the seven KPIs have measurement data available and are reported below. The target for the "Staff Count" KPI will be established as part of the analysis of future staffing needs.

Program Key Performance Indicators – Fiscal Year 2013-2014

KPI Description	Target	Actual	Status	Trend	Measurement
Schedule[1]	85%	67% (2/3)			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	90%	100% (2/2)			Percentage of CIP projects that are completed within the approved baseline budget. ***Target: 90% of projects total expenditures do not exceed 101% of the baseline budget.***
Expenditure	≥$72.7M	$90.6M			Total CIP actual + forecast committed cost for the fiscal year compared to CIP fiscal year budget. ***Target: Forecast committed cost meets or exceeds 50% of budget for Fiscal Year 13/14 ($145.4 / 2 = $72.7M)***
Procurement[2]	100%	92.7% (11/12)			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.***
Staff Count[3]	TBD	TBD	TBD	TBD	Number of additional staff started in the previous quarter compared to planned (City/Consultant). ***Target: Number of City and Consultant Staff joined the program team for the quarter meets or exceeds planned.***

KEY:

Cost:	 **Meets or exceeds KPI target**	 **Does not meet KPI target**

Notes

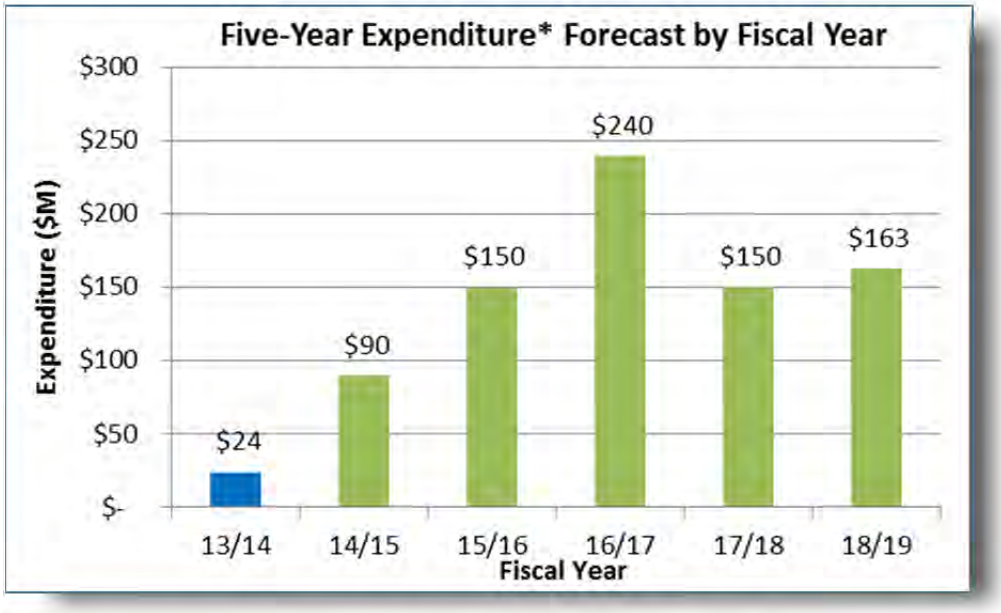
1. For the Schedule KPI, the number of delivered projects increased from 2 to 3, this count now includes Distributed Control System (DCS) Fiber Optics Network Expansion, which reached Beneficial Use as of May 2014.
2. For the Procurement KPI, the design-build legal services RFQ is now expected to be awarded in September 2014.
3. Staff count KPI measured quarterly; all other KPIs measured monthly

Program Cost Performance

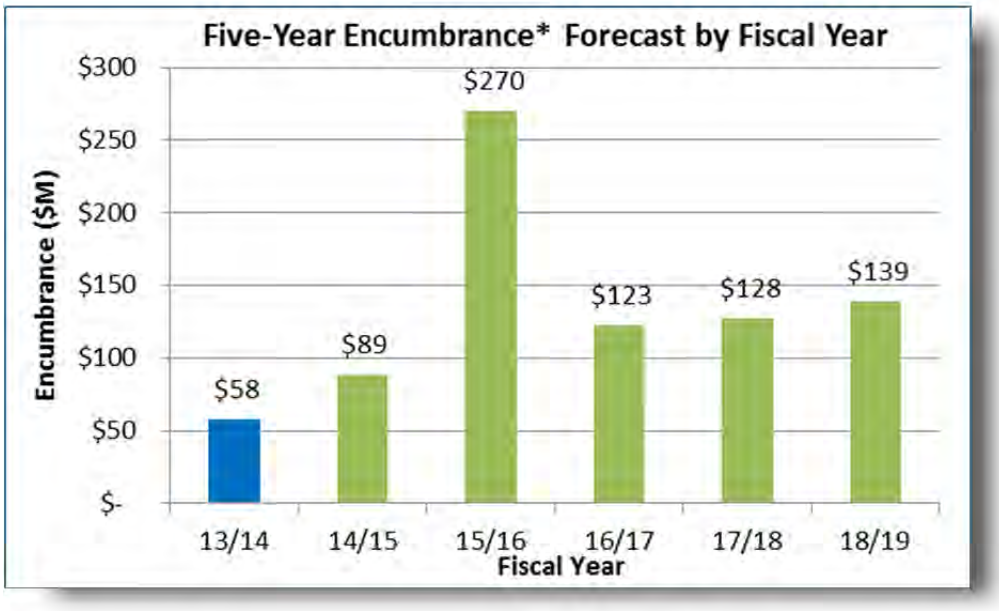
This section provides a summary of CIP cost performance for all construction projects and non-construction activities for FY13-14 and the Five-Year CIP.

Proposed 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. The City held special study sessions with TAC and TPAC in April to discuss the ten-year funding strategy and the financing plan.



*Expenditure defined as: Actual cost expended associated with services and construction of physical assets

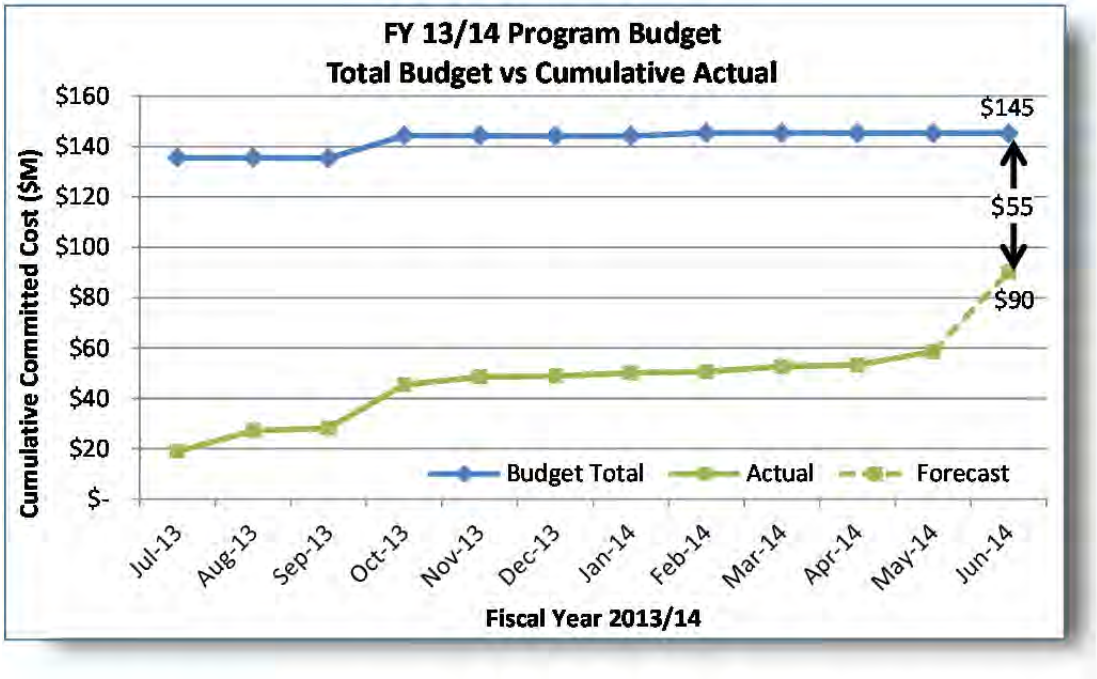


*Encumbrance defined as: Financial commitments, such as purchase orders or contracts, which are chargeable to an appropriation and for which a portion of the appropriation is reserved

Fiscal Year 2013-2014 Program Budget Performance

The fiscal year began with an initial program budget of $135 million, with a $9 million adjustment in October and a $1 million adjustment in February, for a total program budget of $145 million. The budget amount of $145 million represents the 2013-2014 budget of $193 million plus carryover of $17 million, less reserves of $5 million and ending fund balance of $60 million. Committed costs are expenditures and encumbrance balances, including carryover (encumbrance balances from the previous fiscal year). As of the close of the May reporting period, $59 million in cumulative program spending had been achieved. This represents approximately 37% of the total program budget for FY13-14.

Committed costs are forecasted to reach $90 million by the end of the fiscal year resulting in a projected year-end variance of approximately $55 million as shown in the chart below. The last fiscal quarter will see a number of large construction contract awards including Digester Gas Storage Replacement, Fire Main Replacement – Phase III, Digester Gas Compressor, and Emergency Diesel Generators.



The projected year-end variance increased from $54 million to $55 million due to bids coming in slightly lower than the engineer's estimates.

Project Performance

There are currently eleven active projects in the construction or post-construction phase with a further seven 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 table 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 Name	Phase	Estimated Beneficial Use Date[1]	Cost Performance[2]	Schedule Performance[2]
Baselined Projects				
Dissolved Air Flotation (DAF) Dissolution Improvement	Post-Construction	Apr 2014	◆	◆
Distributed Control System (DCS) Fiber Optics Network Expansion	Post-Construction	May 2014	●	●
115KV Circuit Breaker Replacement	Construction	Aug 2014	●	●
A5-A6 Nitrification Mag. Meter & Valve Replacement	Construction	Jul 2014	●	●
BNR-2 Clarifier Guardrail Replacement	Construction	Dec 2014[3]	●	●
DCS Upgrade/Replacement	Construction	Jun 2016	●	●
Digester Gas Compressor Upgrade	Construction	Jul 2016[3]	●	●
Digester Gas Storage Replacement	Construction	May 2015[3]	●	●
Fire Main Replacement - Phase III	Construction	Mar 2015[3]	●	●
Handrail Replacement - Phase V	Construction	Mar 2015	●	●
Training Trailer Replacement	Construction	May 2015[3]	●	●
Pre-Baseline Projects				
Emergency Diesel Generators	Bid & Award	Jul 2016	N/A	N/A
Filtration Building B2 & B3 Pipe & Valve Replacement	Bid & Award	Apr 2015	N/A	N/A
RWF Street Rehabilitation - Phase III	Bid & Award	Jan 2015	N/A	N/A
Cogeneration Facility	Design	Mar 2017	N/A	N/A
Digester & Thickener Facilities Upgrade	Feasibility/Development	Feb 2018	N/A	N/A
Iron Salt Feed Station	Feasibility/Development	Apr 2016	N/A	N/A
Plant Instrument Air System Upgrade	Feasibility/Development	Dec 2015	N/A	N/A

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.
2. An explanation of cost and schedule variances on specific projects identified in this table is provided on the next page.
3. Beneficial Use date pending confirmation of Contractor's schedule

Significant Accomplishments

On May 1, the City opened bids for the Filtration Building B2 and B3 Pipe and Valve Replacement project, which will demolish and replace two filter backwash valves, valve actuators, and adjoining piping in the Filtration Building Battery B gallery. The project, along with Emergency Diesel Generators and RWF Street Rehabilitation – Phase III, is scheduled for TPAC and City Council consideration in June. Project Budget: $384,000.

On May 20, the Digester Gas Compressor Upgrade and Training Trailer Replacement projects were awarded. That same day, the DCS Fiber Optics Network Expansion achieved beneficial use. This project is profiled on the next page of this report.

Explanation of Project Performance Issues

DAF Dissolution Improvement

This project involved the replacement of pipe sections, check valves, and knife gate valves, and the installation of new electric actuators to automate valve operations for the dissolved air flotation process in the Wastewater Facility's Sludge Control Building. One of the new valves required an extended shutdown period and repeated installation attempts. In existing facilities, it is not uncommon for new equipment to present fit and alignment challenges as was encountered in this case. In addition, the installation of the local control panel required a longer than expected submittal review period. These issues resulted in minor cost and schedule impacts (3% above target budget and 3 months beyond target schedule).

In April, the project achieved beneficial use. The contractor's work is essentially complete, with the exception of a local control panel connection and outstanding punch list items. In-house staff is expected to finish the remaining electrical work and staff anticipates project acceptance in July.

Project Profile

DCS Fiber Optics Network Expansion

The Distributed Control System (DCS) allows operators to monitor and control many critical aspects of the Wastewater Facility's electrical, hydraulic, biological, and chemical processes from a central location. It consists of distributed control units, servers, and clients that are linked to each other and connected to the Facility's main computer room, which is operated 24/7. The current system has been in place since the early 1990s. Last June, the City awarded a project to upgrade the DCS to increase its capacity and reliability to support the capital improvements planned for the Wastewater Facility.

This project upgraded and expanded the fiber optics network needed to support the new DCS. Facility-wide, the project installed approximately 6.5 miles of new fiber optic cables in existing electrical and communication conduits; approximately 1,800 linear feet of new conduits; and 100 high density fiber patch panels and enclosures. The project was awarded to Terry Hansen Electric on June 18, 2013, for a contract amount of $589,000. Construction began August 19, 2013 and the reached beneficial use on May 20 of this year.

Two additional projects are scheduled to start in Fiscal Year 2014-2015 to provide fiber connections between various buildings within the Wastewater Facility as well as between the Facility and City Hall.

Project Budget: $957,000.

Project Location:

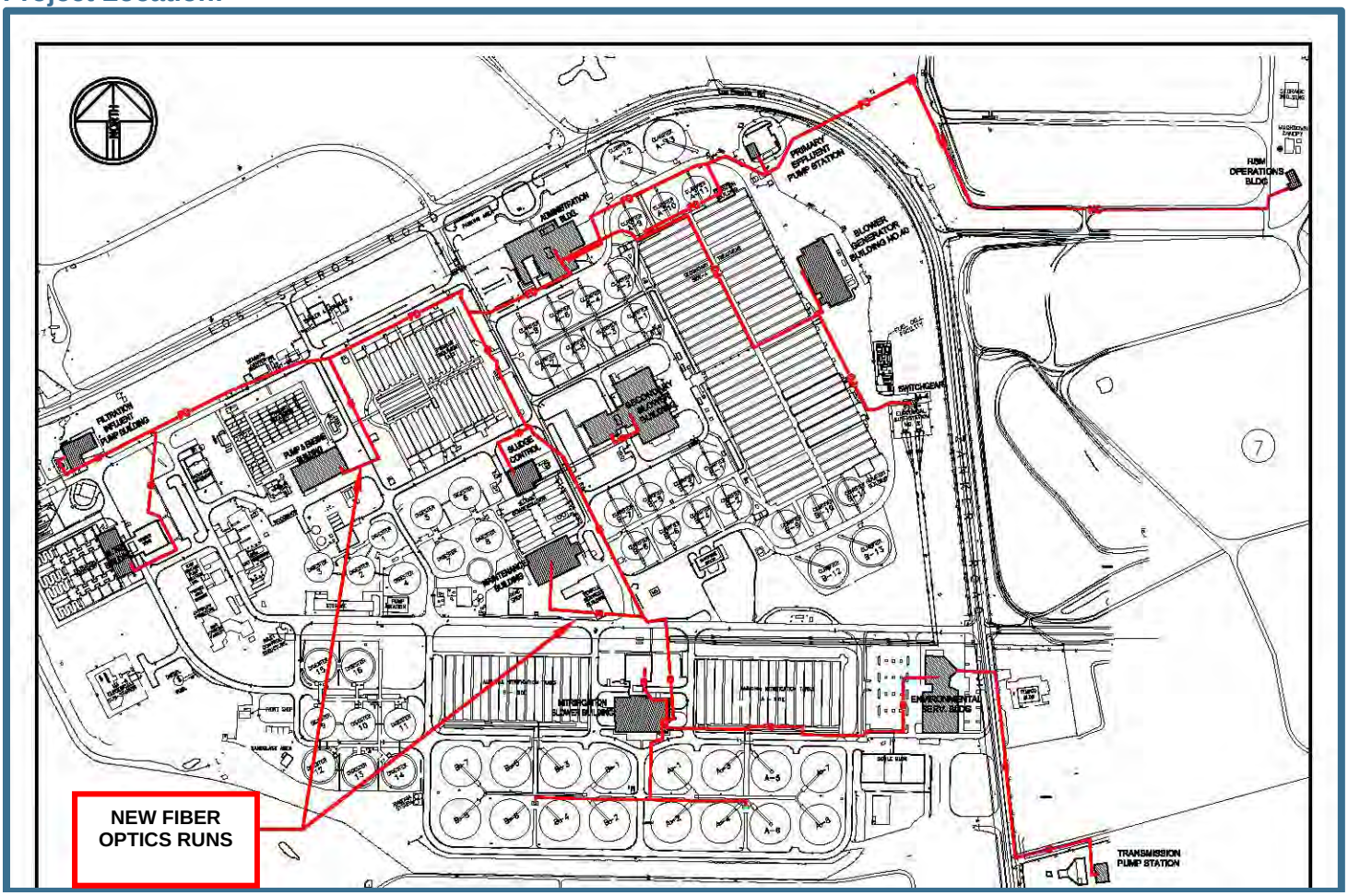


Figure 2: DCS Fiber Optics Network Expansion

Figure 3: The Wastewater Facility's main computer room.

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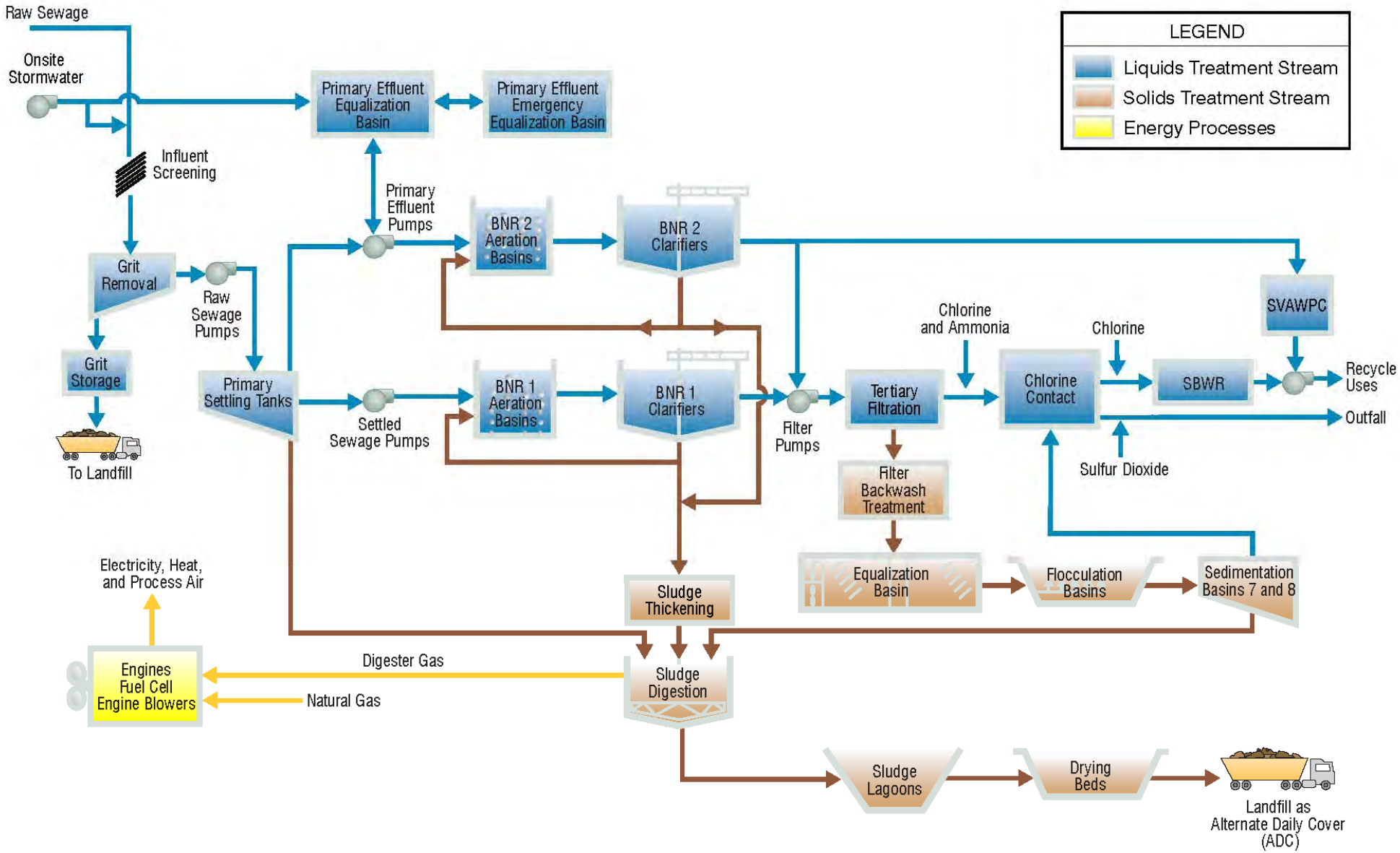
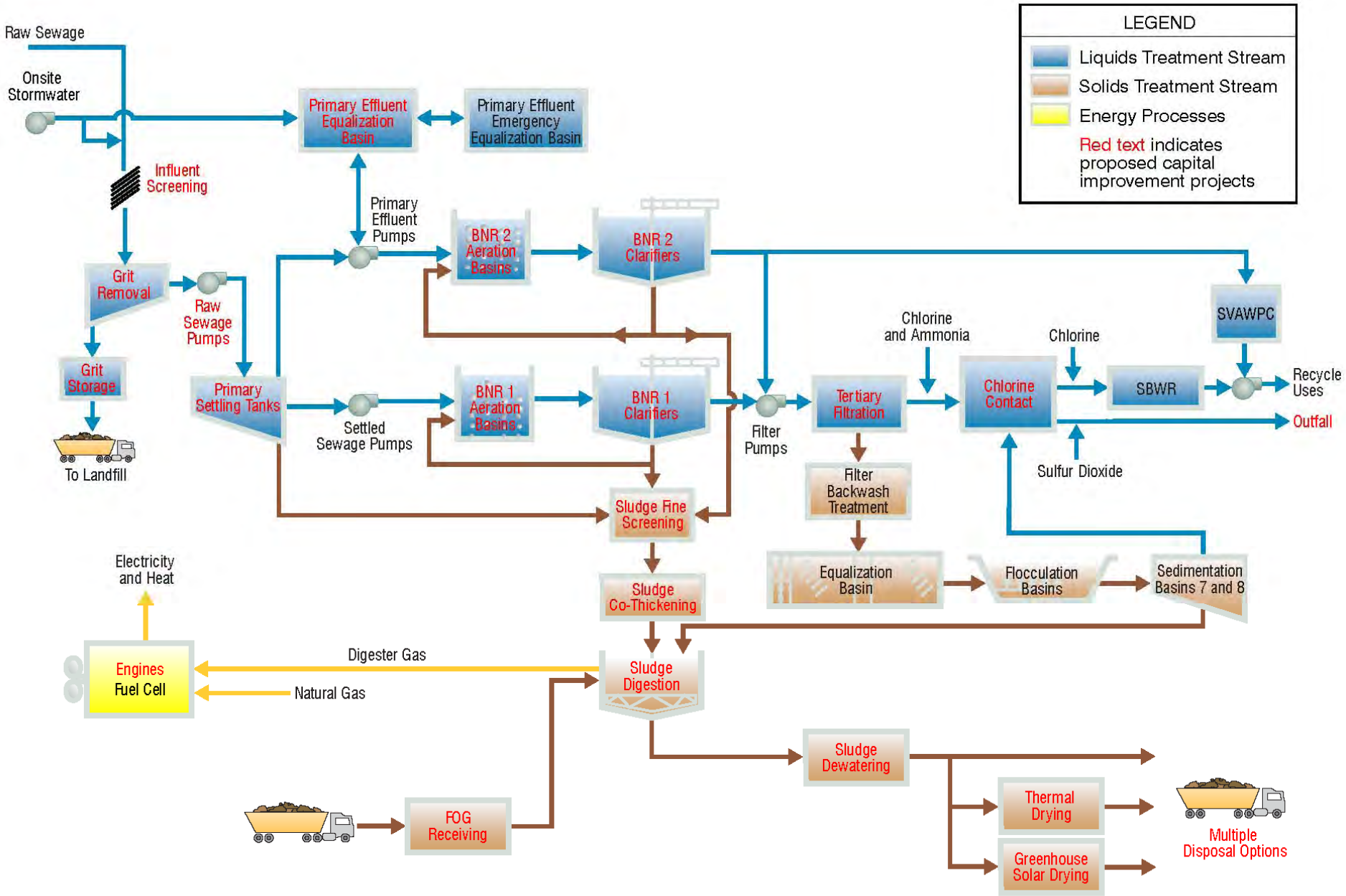
Regional Wastewater Facility Treatment – Current Treatment Process Flow Diagram



Regional Wastewater Facility Treatment – Proposed Treatment Process Flow Diagram



Active Construction Projects – Aerial Plan