



City of Morro Bay
Water Reclamation Facility Project

MONTHLY REPORT MAY 2019

FINAL | June 2019





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State of California, PE.73351

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Section 1

PROJECT OVERVIEW

1.1 General Project Status Update

All components of the Water Reclamation Facility Project (Project) are currently in progress. City staff and the Program Manager (Carollo) are actively working with the design-build team and the pipeline designer to advance the design of the Water Reclamation Facility (WRF) and Conveyance Facilities, respectively. In May 2019, City staff and the Program Manager presented seventeen (17) potential change orders with a total value of \$1.9 million for the WRF to WRFCAC and the City Council. The City Council approved these PCOs and authorized City staff to update the design-build team's contract and associated guaranteed maximum price (GMP). The design-build team, City staff, and Carollo are also working to finalize the procurement packages that will be used to procure the major process equipment for the WRF. It is anticipated that the first four (4) procurement packages will be advertised to prospective equipment manufacturers in July 2019.

For the last several months, accessing properties owned by Vistra Energy Corporation (Vistra) and PG&E to complete necessary field work for design of the Conveyance Facilities has been a challenge. The result has been a delay in the schedule for this component of the Project by several months. However, in May 2019, access requirements with these two entities were successfully negotiated and field work was started. Last month, historical archeologists, biologists, archeologists, and surveyors completed the field work necessary to advance the Final Environmental Impact Report (EIR) addendum and the 60 percent design of the Conveyance Facilities. The Program Manager will be working with Water Works Engineers (WWE), the designer for this portion of the Project, to expedite the final design schedule and recover schedule time lost over the last several months.

The hydrogeologist (GSI) recently completed the Draft Groundwater Modeling Technical Memorandum (TM) also referred to as the "Phase 1" hydrogeological work. The TM evaluated the impacts of injection and extraction on the nitrate concentration in the groundwater and the basin's susceptibility to seawater intrusion during periods of sustained pumping. The results from this TM include the following:

- Pumping the City's permitted allotment of 581 acre feet per year (AFY) without injection would put the Lower Morro Valley Groundwater Basin at risk of seawater intrusion over time
- Injection at 825 AFY coupled with extraction at 581 AFY would reduce the total dissolved solids (TDS) concentration in the extracted water below 1,000 milligrams per liter (mg/L) or the drinking water secondary maximum contaminant level (MCL)

- Injection at 825 AFY coupled with extraction at 581 AFY would reduce the nitrate concentration in the extracted water below 45 mg/L or the primary drinking water MCL

During May 2019, the City and Program Manager worked with GSI to develop a work plan for activities that need to be completed on the property owned by Vistra to characterize the West injection location. Based on the current schedule, the necessary field testing to identify the preferred injection location, better define injection and extraction volumes, and confirm the groundwater travel time will commence in July 2019.

Table 1 summarizes some of the key accomplishments and critical challenges identified for the Project in May 2019.

Table 1 Project Accomplishments and Challenges

Project Component	Key Accomplishments	Critical Challenges	Actions to Overcome Challenges	Likely Outcomes
General Project	Gained access to Vistra and PG&E property to complete historical architecture, archeological, and biological field work necessary to complete the Final EIR addendum			
	Continued working with California Coastal Commission (CCC) staff to complete the Coastal Development Permit (CDP) application			
Water Reclamation Facility	Seventeen (17) potential change orders (PCOs) approved by City Council			
Conveyance Facilities	Continued development of the 60 Percent Design Submittal			
		Schedule recovery due to issues access Vistra and PG&E property	Work with WWE to expedite the final design schedule (options could include eliminating some intermediate deliverables)	Without expediting the schedule, delayed construction completion could impact the schedule for start-up of the WRF
Recycled Water Facilities		Schedule recovery due to issues access Vistra and PG&E property	Work with GSI to expedite the completion of the Phase 2 hydrogeology work	Without expediting the schedule, the completion of the injection wells could be delayed (does not impact compliance with the TSO)

Section 2

PROJECT COSTS

2.1 Performance Measures

A set of five (5) Key Performance Indicators (KPIs) were established to readily measure the progress of the Project. These KPIs represent various success factors associated with the WRF project management and delivery that were established by the Program Manager and City staff and are summarized as Table 1. The Project's performance is also illustrated graphically in Figures 1 and Figure 2.

Table 2 WRF Project Performance Measures

Performance Measure	Data	Target	Current	Delta	Status	Ⓞ	Ⓢ	Ⓡ
1: Total Project Costs	Total Project Projected Cost at Completion versus the Baseline Budget (budget as of 3/31/19)	\$125.9 M	\$124.5 M	-1.2%	Ⓞ	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
1.1: WRF Costs	On Site WRF Projected Cost at Completion versus the Baseline Budget (budget as of 3/31/19)	\$77.1 M	\$77.9 M	1.0%	Ⓞ	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
1.2: Conveyance Facilities Costs1	Conveyance Facilities Projected Cost at Completion versus the Baseline Budget (budget as of 3/31/19)	\$26.3 M	\$29.5 M	11.8%	Ⓡ	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
1.3: Recycled Water Facilities Costs1	Off Site Injection Facilities Projected Cost at Completion versus the Baseline Budget (budget as of 3/31/19)	\$12.1 M	\$5.7 M	-52.9%	Ⓞ	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
1.4: General Project Costs2	General Project Projected Cost at Completion versus the Baseline Budget (budget as of 3/31/19)	\$10.5 M	\$11.5 M	9.5%	Ⓢ	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
2: Program Manager Earned Value	Ratio of Program Manager Earned Value to Actual Invoiced Cost-to-Date (as of 5/31/19)	1.00	1.06	0.06	Ⓞ	>= 1.00	0.99 to 0.90	< 0.90
3: Schedule Performance Index	Ratio of Planned Percent Complete to Actual Percent Complete (as of 5/31/19)	1.00	0.83	-0.17	Ⓢ	>=1.00	0.99 to 0.80	<0.80
4: Conveyance Pipeline Installed	Feet of conveyance pipeline installed (thru 5/31/19)	18,500 LF	0.0 LF	0.0%	Ⓞ	<= 5%	> 5% and <=7.5%	> 7.5%
5: Compliance Date Countdown	Days Remaining to Compliance Date (as of 5/31/19)	1,369 days	970 days	-399 days	Ⓞ	<= 365 days	364 days and 180 days	> 179 days

Notes:

- (1) The cost of the potable reuse pipeline (assumed East injection location) was moved from the Recycled Water Facilities Project to the Conveyance Facilities Project following completion of the baseline cost estimate in May 2018.
- (2) General Project Costs include Program Management, funding, permitting, etc. Costs from other project components were reclassified as General Project Costs following development of the baseline cost estimate in May 2018.
- (3) Delays associated with access to Vistra and PG&E property have resulted in schedule delays impacting hydrogeology work and completion of the Conveyance Facilities final design.

Section 3

PROJECT COSTS

3.1 Project Budget

The overall budget status for the Project is summarized in Table 3. The top half of the table provides a summary of total estimated Project costs, including original and current estimated costs for the entire Project. The bottom half of Table 3 shows the total amount of work currently under contract and provides a summary of total charges.

Table 3 WRF Project Overall Budget Status (thru May 2019)

Summary of Total WRF Project Cost	
Original Baseline WRF Project Budget ⁽¹⁾	\$125,938,000
Current WRF Project Budget (as of 3/31/19)	\$124,438,000
Budget Percent Change (Current versus Baseline)	-1.2%
Total Expenditures for May 2019	\$633,907
Total Expenditures to Date (thru 5/31/19 invoices)	\$10,104,888
Percent of Current WRF Project Budget Expended	8.1%
Summary of Contracted Work	
Total Contracted Amount	\$75,339,249
Percent of Current WRF Project Budget Contracted	60.5%
Total Contracted Amount Expended	\$8,600,079
Percent of Contracted Amount Expended	11.4%
Remaining WRF Project Contracted Amount	\$66,739,170

Notes:

(1) Developed in the spring of 2018 as the basis of the approved rate surcharge that will take effect in July 2019.

3.2 Project Cash Flow

Presented in Figure 1 are the projected and actual expenditures for the Project through May 2019 compared to the baseline budget developed in 2018 as the basis for the rate surcharge. The line graph shows the cumulative values for the Project and the bars show the discrete monthly values. Actual and budgeted expenditures from 2013 to the end of Fiscal Year 2017/2018 have been combined to improve readability. Milestones have been added to the cumulative baseline budget and cumulative forecasted expenditures to show changes in the Project schedule that have occurred between development of the baseline budget in May 2018 and the re-baselined budget developed at the end of March 2019. The milestone corresponds to the substantial completion of the WRF, which coincides with the City being in compliance with the time schedule order (TSO) issued by the Regional Water Quality Control Board (RWQCB) in June 2018.

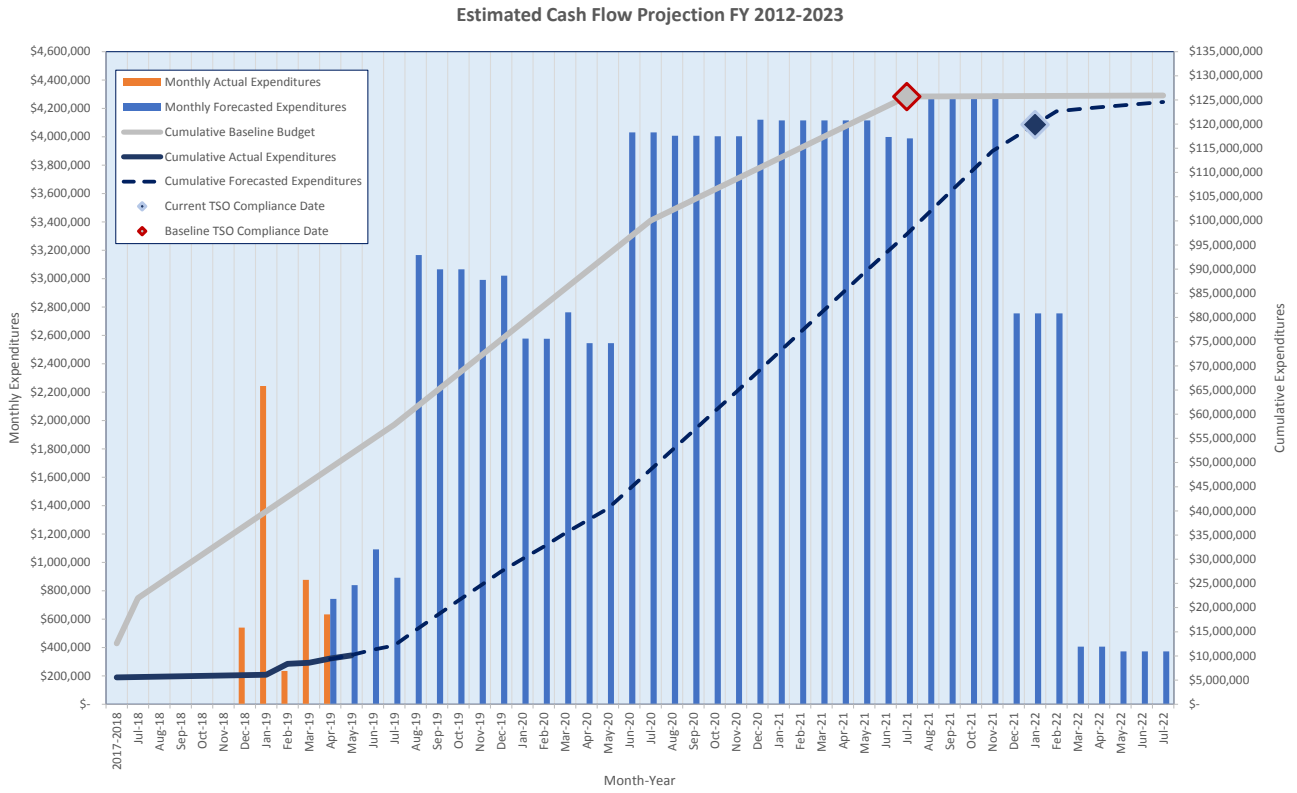


Figure 1 Project Cash Flow Projections and Actual Expenditures

Section 4

PROJECT SCHEDULE

A summary of the Project schedule is presented in Figure 2. The light blue bars for each major task represent the planned progress based on the re-baselined schedule developed at the end of March 2019. The dark blue bars represent the current actual progress as of May 2019. For each major line item, the schedule performance index (SPI) has been provided as well as an overall SPI for the entire Project. The SPI is a ratio of the planned percent complete versus the actual percent complete. A SPI of greater than 1.00 indicates that the Project is on or ahead of schedule and a SPI of less than 1.00 indicates the Project is behind schedule.

4.1 Project Milestones

In June 2018, the City received a TSO from the RWQCB. The TSO requires the City to comply with a time schedule that will, within five years of adoption, allow the City to achieve full compliance with biochemical oxygen demand (BOD) and total suspended solids (TSS) final effluent limitations in Order No. R3-2017-0050. In addition to the final compliance date, a number of intermediate milestones are provided in Table 3 (Compliance Schedule) of the TSO. Presented in Table 4 are the milestones in the TSO.

Table 4 Project Construction Milestones

Required Actions	Compliance Due Date	Planned Compliance Date	Actual Compliance Date
Release of Public Draft EIR	March 30, 2018	-	March 30, 2018
Release of Updated Rate Study	June 30, 2018	-	July 05, 2018
Proposition 218 Hearing	August 30, 2018	-	September 11, 2018
Certification of Final EIR	June 30, 2018	-	August 14, 2018
Award of Contract for WRF	September 30, 2018	-	October 23, 2018
Develop, Implement, and Submit Pollution Prevention Plan (PPP) for BOD and TSS	December 01, 2018	TBD ¹	-
Award of Contract for Construction of Conveyance Facilities	November 30, 2019	May 08, 2020	-
Completion of WRF Improvements with Completion Report	December 30, 2022	January 25, 2022	-
Full compliance with final effluent limitations	February 29, 2023	January 25, 2022	-

Notes:

- (1) The City and Program Manager have noted this requirement in the previous quarterly progress reports sent to the RWQCB (as required by the TSO). The City has requested that the Enhanced Source Control Program (ESCP) required as part of the Title 22 Engineer's Report be considered acceptable for this requirement in lieu of the PPP identified in the TSO.

