



City of Morro Bay  
Water Reclamation Facility Project

QUARTERLY REPORT MARCH 2020

FINAL | May 2020







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Eric T. Casares,  
May 2020,  
State of California, P.E. 73351



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## Abbreviations

Bartle Wells	Bartle Wells Associates
BO	Biological Opinion
BOD	Biochemical Oxygen Demand
CDP	Coastal Development Permit
CDWF	California Department of Fish and Wildlife
CPT	Cone Penetration Test
CPUC	California Public Utilities Commission
CRLF	California Red Legged Frog
CWSRF	Clean Water State Revolving Fund
DDW	Division of Drinking Water
Design Build Team	Filanc and Black & Veatch
EACs	estimates and completion
EPA	Environmental Protection Agency
ESCP	Enhanced Source Control Program
GMP	Guaranteed Maximum Price
IFC	issued for construction
IIPP	Illness and Injury Prevention Plan
IPR	Indirect Potable Reuse
KPI	Key Performance Indicator
MBCC	Morro Bay Chamber of Commerce
MBR	Membrane Bioreactor
NPDES	National Pollution Discharge Elimination System
NTP	notice to proceed
PA	Programmatic Agreement
PCO	Potential Change Order
PPP	Pollution Prevention Program
Program Manager	Carollo Engineers
Project	Water Reclamation Facility Project
PWAB	Public Works Advisory Board
PWAB	Public Works Advisory Board
RWQCB	Regional Water Quality Control Board
SHPO	State Historic Preservation Office
SPI	Schedule Performance Index
TSO	Time Schedule Order
TSS	Total Suspended Solids
USBR	United States Bureau of Reclamation
USFWS	

UVAOP	Ultraviolet Advanced Oxidation Process
Vistra	Vistra Energy
WIFIA	Water Infrastructure Finance and Innovation Act
WRF	Water Reclamation Facility
WRFCAC	Water Reclamation Facility Citizens Advisory Committee
WWE	Water Works Engineers
WWTP	

## Section 1

# PROJECT OVERVIEW

### 1.1 General Project Status Update

All components of the Water Reclamation Facility Project (Project) are currently in progress.

During the last quarter, the design-build team advanced the design of the Water Reclamation Facility (WRF) and delivered the 90 percent design deliverable on March 31, 2020. The City also issued a notice to proceed (NTP) for construction on March 20, 2020. The design-build team has begun mobilization and mass earthwork at the South Bay Boulevard site.

The pipeline designer delivered the 90-percent design deliverable for the Conveyance Facilities on February 10, 2020. A workshop was held with the Program Manager and the City to review substantial comments on February 25 and 26, 2020.

On March 09, 2020, the City signed a \$61.7 million low-interest loan with the Environmental Protection Agency's (EPA's) Water Infrastructure Finance and Innovation Act (WIFIA) program. Finalizing the loan agreement was the culmination of a process in 2017 that began with the City submitting a letter of interest to EPA. Based on the timing of execution, the City was able to take advantage of a near historic low interest rate at 0.83 percent.

City staff and the Program Manager have been working closely with the EPA's WIFIA staff to complete the Section 7 consultation process with the USFWS regarding the California Red Legged Frog (CRLF) since October 2019. On February 20, 2020, the City received the Final Biological Opinion (BO), which allowed the City to sign the WIFIA loan agreement soon after and issue the construction NTP to the design-build team for the WRF.

Table 1 summarizes some of the key accomplishments and critical challenges identified for the Project through March 2020.



Table 1      Project Accomplishments and Challenges

Project Component	Key Accomplishments	Critical Challenges	Actions to Overcome Challenges	Likely Outcomes
General Project	Signed WIFIA loan agreement for \$61.7 million.			
	Completed Section 7 consultation with the USFWS for the CRLF and received the Final BO.			
Water Reclamation Facility	Completed the 90-percent design deliverable.			
	Issued the construction NTP.			
		Numerous potential change orders (PCOs) need to be considered that will likely exceed the \$126 million Project budget.	PCOs will be presented to the Public Works Advisory Board (PWAB) and City Council in May.	
		Complete the permitting process with the California Department of Fish and Wildlife (CDFW).	Continue to coordinate with CDFW staff to facilitate review.	Avoidance of certain areas on the WRF site is causing construction inefficiencies that could result in a future PCO.
Conveyance Facilities	Completed the 90-percent design deliverable.			
		Expediting completion of the final design for the Conveyance Facilities.	Elimination of intermediate design deliverables.	Further delays in the start of construction could impact the start-up of the WRF and delay compliance with the time schedule order (TSO).
		Receipt of easements necessary to construct the pipelines in the City's existing bike path.	Work closely with Vistra (Vistra Energy), PG&E, and California Public Utilities Commission (CPUC) to obtain the easements.	Delayed receipt of the easements could complicate or delay construction of the Conveyance Facilities.
Recycled Water Facilities		Receipt of property necessary to construct the injection wells.	Work with Vistra to obtain the property for the injection wells.	Without expediting the schedule, the completion of the injection wells will be delayed (does not impact compliance with the TSO).



## 1.2 Quarterly Budget Revision

The original \$126 million baseline budget was developed in June 2018 (Q4 Fiscal Year 2017/2018) and was used as the basis for the rate study prepared by Bartle Wells Associates (Bartle Wells). At the beginning of each fiscal year, the budget is updated and used as the measure of performance for the Project during that upcoming fiscal year. The budget is then reviewed and reconciled on a quarterly basis so it can be compared to both the current fiscal year and baseline budgets. The next budget reconciliation will occur at the end of Q4 Fiscal Year 2019/2020 (June 30, 2020). A summary of the baseline, reconciled quarterly, and fiscal year budgets are summarized in Table 2. Subsequent budget reconciliations (quarterly) and fiscal year budgets (annual) will also be presented in this table for reference.

Table 2 Budget Revision Summary

Project Component	Baseline (Q4 FY 17/18)	Quarterly Reconciliation (Q3 FY 18/19)	Current Fiscal Year (Q4 FY 18/19)	Quarterly Reconciliation (Q1 FY 19/20)	Quarterly Reconciliation (Q2 FY 19/20)	Quarterly Reconciliation (Q3 FY 19/20)
Water Reclamation Facility	\$62,414,000	\$74,059,000	\$72,891,000	\$72,598,000	\$72,231,000	\$71,856,000
Conveyance Facilities	\$21,087,000	\$27,108,000	\$28,864,000	\$28,524,000	\$29,224,000	\$29,989,000
Recycled Water Facilities	\$8,593,000	\$5,366,000	\$5,250,000	\$5,212,000	\$5,353,000	\$5,526,000
General Program	\$24,403,000	\$11,614,000	\$11,801,000	\$11,625,000	\$11,701,000	\$12,964,000
Construction Contingency	\$9,444,000	\$6,450,000	\$7,132,000	\$7,131,000	\$7,364,000	\$10,264,000
<b>Total</b>	<b>\$125,941,000</b>	<b>124,597,000</b>	<b>\$125,938,000</b>	<b>\$125,090,000</b>	<b>\$125,873,000</b>	<b>\$130,599,000</b>

Notes:

(1) Breakdown of the current contingency (\$10,264,000) is as follows: WRF = \$7,506,000; Conveyance Facilities = \$2,458,000; and Recycled Water Facilities = \$300,000



Changes to the Project budget since the completion of the fiscal year budget reconciliation in Q1 Fiscal Year 2018/2019 can be attributed to the following:

- Addition of \$2.9 million in construction contingency for the WRF needed to cover additional PCOs that will be considered by the City Council in late May 2020.
- Addition of pre-construction archeological investigations outlined in the Programmatic Agreement (PA) negotiated with the State Historic Preservation Office (SHPO) for the Conveyance Facilities and Recycled Water Facilities components of the Project.
- Addition of archeological and tribal representative monitoring for the Conveyance Facilities and Recycled Water Facilities components of the Project.
- Addition of biological monitoring for the Conveyance Facilities and Recycled Water Facilities components of the Project.

Table 3 summarizes the positions and estimates at completion (EACs) for the major elements of the Project through the end of Q3 FY 19/20 when the last budget reconciliation was completed.

Table 3 Estimates at Completion

Project Component	Original Estimates	Initial Contract Value	Current Contract Value	Expenditures to Date	Estimate at Completion
<b>General Project</b>	<b>\$24,403,000</b>			<b>\$4,174,821</b>	<b>\$13,917,000</b>
City Costs <sup>(2)</sup>				\$1,898,617	\$4,078,000
Program Management <sup>(3)</sup> (Carollo Engineers)		\$293,000	\$4,280,916	\$2,276,204	\$9,839,000
<b>Water Reclamation Facility</b>	<b>\$62,414,000</b>			<b>\$8,158,699</b>	<b>\$68,871,000</b>
Design/Build (Filanc/Black & Veatch)		\$67,234,512	\$68,870,572	\$8,158,699	\$68,871,000
<b>Conveyance Facilities</b>	<b>\$21,087,000</b>			<b>\$1,807,054</b>	<b>\$26,386,000</b>
Design (Water Works Engineers)		\$1,360,565	\$2,052,387	\$1,807,054	\$2,152,000
Construction				-	\$24,234,000
<b>Recycled Water Facilities</b>	<b>\$8,593,000</b>			-	<b>\$3,575,000</b>
Design				-	\$450,000
Construction				-	\$3,125,000
<b>Contingency</b>	<b>\$9,444,000</b>				<b>\$10,263,000</b>
Water Reclamation Facility					\$7,505,000
Conveyance Facilities					\$2,458,000
Recycled Water Facilities					\$300,000
<b>Other Contracts<sup>(4)</sup></b>				<b>\$5,367,826</b>	<b>\$7,587,000</b>
<b>Total</b>	<b>\$125,941,000</b>			<b>\$19,508,400</b>	<b>\$130,599,000</b>

## Notes:

- (1) Total expenditures and EAC are based on the budget reconciliation completed for Q3 FY 19/20.  
 (2) City costs include staff salaries and benefits, legal services, land acquisition, supplies and equipment, etc.  
 (3) Includes total program management costs including public outreach and construction oversight/management.  
 (4) Other Contracts includes previous consultants including MKN and Black & Veatch and current consultants including Far Western, ESA, Kestrel, GSI, Bartle Wells Associates, etc.

## Section 2

# KEY PERFORMANCE MEASURES

### 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 4. The Project's performance is also illustrated graphically in Figures 1 and Figure 2.



Table 4 WRF Project Performance Measures

Performance Measure	Data	Baseline (Q4FY 18/19)	Current (Q3 FY 19/20)	Delta	Status	ⓐ	ⓑ	ⓒ
1: Total Project Costs	Total Project Projected Cost at Completion versus the Baseline Budget (budget as of 03/31/20)	\$125.9 M	\$130.6 M	3.7%	ⓐ	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 03/31/20)	\$77.3 M	\$79.4 M	2.7%	ⓐ	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
1.2: Conveyance Facilities Costs	Conveyance Facilities Projected Cost at Completion versus the Baseline Budget (budget as of 03/31/20)	\$31.3 M	\$32.5 M	3.6%	ⓐ	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
1.3: Recycled Water Facilities Costs	Off Site Injection Facilities Projected Cost at Completion versus the Baseline Budget (budget as of 03/31/20)	\$5.6 M	\$5.8 M	4.4%	ⓐ	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
1.4: General Project Costs	General Project Projected Cost at Completion versus the Baseline Budget (budget as of 03/31/20)	\$11.7 M	\$12.9 M	10.7%	ⓒ	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 03/31/20)	1.00	1.07	0.07	ⓐ	>= 1.00	0.99 to 0.90	< 0.90
3: Schedule Performance Index <sup>(1)</sup>	Ratio of Planned Percent Complete to Actual Percent Complete (as of 03/31/20)	1.00	0.94	-0.06	ⓑ	>=1.00	0.99 to 0.80	<0.80
4: Conveyance Pipeline Installed	Feet of conveyance pipeline installed (thru 03/31/20)	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 03/31/20)	1,064 days	832 days	-258 days	ⓑ	<= 365 days	364 days and 180 days	> 179 days



## Section 3

# PROJECT COSTS

### 3.1 Project Budget

The overall budget status for the Project is summarized in Table 5. 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 5 shows the total amount of work currently under contract and provides a summary of total charges.

Table 5 WRF Project Overall Budget Status (thru March 2020)

Summary of Total WRF Project Cost	
Original Baseline WRF Project Budget <sup>(1)</sup>	\$125,941,000
Current Fiscal Year WRF Project Budget (as of 6/30/19) <sup>(2)</sup>	\$125,938,000
Current WRF Project Budget (as of 03/31/20) <sup>(3)</sup>	\$130,599,000
Budget Percent Change (Current versus Fiscal Year)	3.7%
Total Expenditures for March 2020	\$1,999,000
Total Expenditures to Date (thru 03/31/20 invoices)	\$19,508,000
Percent of Current WRF Project Budget Expended	14.9%
Summary of Contracted Work	
Total Contracted Amount	\$80,358,000
Percent of Current WRF Project Budget Contracted	61.5%
Total Contracted Amount Expended	\$17,610,000
Percent of Contracted Amount Expended	21.9%
Remaining WRF Project Contracted Amount	\$62,748,000

Notes:

- (1) Developed in June 2018 as the basis of the approved rate surcharge that took effect in July 2019.
- (2) The budget for the Project is reviewed on an annual basis at the end of each fiscal year (June 30th) and is used as the basis of performance for the Project for the upcoming fiscal year.
- (3) The Project budget is reconciled on a quarterly basis and compared to the current fiscal year budget (i.e., September 30th, December 31st, and March 31st)

### 3.2 Project Cash Flow

Figure 1 presents the projected and actual expenditures for the Project through March 2020 compared to the Fiscal Year 2019/2020 budget developed at the end of Q4 Fiscal Year 2018/2019. 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 2018/2019 have been combined to improve readability. Milestones have been added to the cumulative fiscal year budget and cumulative forecasted expenditures to show changes in the Project schedule that have occurred between development of the fiscal year budget from June 2019 and the current, reconciled budget developed at the end of December 2019. The milestone corresponds to the substantial completion of the WRF, which coincides with the City

being in compliance with the TSO issued by the Regional Water Quality Control Board (RWQCB) in June 2018. While the compliance with the TSO has been delayed several months due to consultation with the USFWS, completion of construction of the injection wells has been impacted more significantly due to property acquisition.

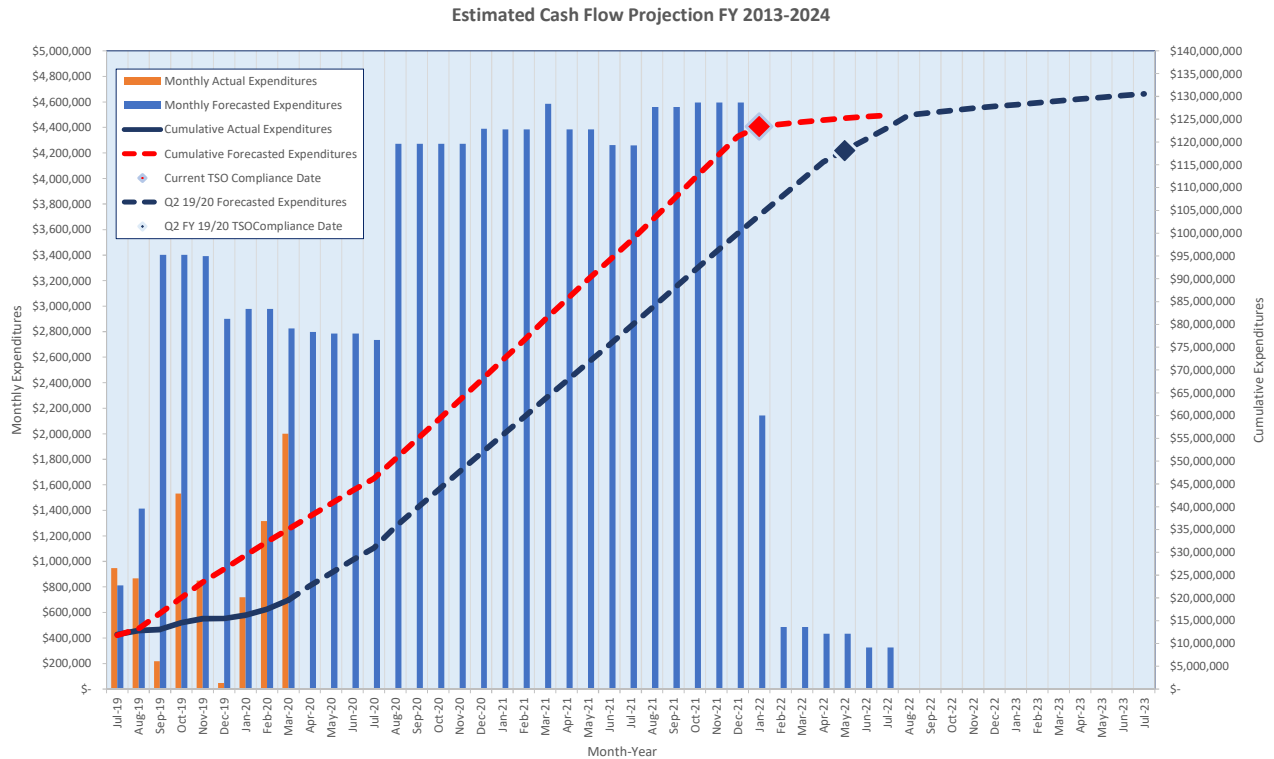


Figure 1 Project Cash Flow Projections and Actual Expenditures

A breakdown of the current Q3 Fiscal Year 2019/2020 budget by fiscal year is included in Table 6.



Table 6 WRF Project Cost Fiscal Year Projections

Project	Actual Expenditures to Date	Remainder FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	Total Project
General Project	\$9,154,000	\$826,000	\$1,159,000	\$876,000	\$876,000	\$73,000	\$12,967,000
WRF	\$8,159,000	\$7,524,000	\$29,298,000	\$29,540,000	\$4,840,000	\$0	\$79,360,000
Conveyance Facilities	\$1,807,000	\$271,000	\$16,116,000	\$14,252,000	\$0	\$0	\$32,446,000
Recycled Water Facilities	\$388,000	\$121,000	\$740,000	\$377,000	\$3,875,000	\$325,000	\$5,826,000
<b>Total</b>	<b>\$19,508,000</b>	<b>\$8,742,000</b>	<b>\$47,313,000</b>	<b>\$45,045,000</b>	<b>\$9,591,000</b>	<b>\$398,000</b>	<b>\$130,599,000</b>

Notes:

(1) Cost includes the total anticipated cost for each element of the Project.

### 3.3 Project Cost Summary

Table 7 summarizes the cost-to-date and contracted amounts for each of the elements of the Project. This table also provides the current cost estimate for each project. Detailed information on the individual elements of the Project is provided in Section 7 of this Report.

Table 7 WRF Project Cost Summary (through March 2020)

Project	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)	Total Project Cost (Est.) <sup>(1)</sup>	Cost Expended to Date (%)
General Project	\$7,256,000	\$8,686,000	83.5%	\$12,967,000	56.0%
WRF	\$8,159,000	\$68,999,000	11.8%	\$79,360,000	10.3%
Conveyance Facilities	\$1,807,000	\$2,052,000	88.1%	\$32,446,000	5.6%
Recycled Water Facilities	\$388,000	\$621,000	62.5%	\$5,826,000	6.7%
<b>Total<sup>(2)</sup></b>	<b>\$17,610,000</b>	<b>\$80,358,000</b>	<b>21.9%</b>	<b>\$130,599,000</b>	<b>13.5%</b>

Notes:

(1) Cost includes the total anticipated cost for each element of the Project.

(2) Actual total expenditures are equal to \$19,508,000 (Table 6), but includes \$2,000,000 of City costs (i.e., labor, expenses, etc.)

### 3.4 Detailed Project Costs

The following tables show the detailed costs to date for active contracts for each element of the Project.

Table 8 General Project Activities Cost Summary (through March 2020)

Consultant / Contractor	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)
ESA	\$412,080	\$412,920	99.8
Far Western	\$124,212	\$260,922	47.6
Kestrel	\$197,488	\$219,872	89.8
Bartle Wells Associates	\$65,580	\$100,800	65.1
JoAnn Head Land Surveying	\$97,693	\$102,644	95.2
JSP Automation	\$21,778	\$63,500	34.3
Carollo Engineers, Inc. <sup>(1)</sup>	\$2,271,204	\$4,281,916	53.0
<b>Total</b>	<b>\$3,190,034</b>	<b>\$5,442,574</b>	<b>58.6.8</b>

Notes:

(1) Total estimate at completion for Program Management/Construction Management is projected at \$9.8 million.

Table 9 WRF Cost Summary (through March 2020)

Consultant / Contractor	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)
Overland Contracting	\$8,158,699	\$68,934,509 <sup>(1)</sup>	11.8
<b>Total</b>	<b>\$8,158,699</b>	<b>\$68,870,572</b>	<b>9.0</b>

Notes:

(1) Cost includes final value for Amendment No. 1 of \$1,636,060 and the original contract value of \$67,234,512.

(2) Cost includes final value for Amendment No. 2 of \$63,937 and the original contract value of \$67,234,512.

Table 10 Conveyance Facilities Cost Summary (through March 2020)

Consultant / Contractor	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)
Water Works Engineers (WWE)	\$1,807,054	\$2,052,387	88.0
<b>Total</b>	<b>\$1,807,054</b>	<b>\$2,052,387</b>	<b>88.0</b>

Table 11 Recycled Water Facilities Cost Summary (through March 2020)

Consultant / Contractor	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)
GSI	\$458,103	\$508,947	90.0
Middle Earth	\$6,570	\$6,810	96.5
<b>Total</b>	<b>\$393,590</b>	<b>\$515,757</b>	<b>76.3</b>

### 3.5 Change Orders

In May 2019, City staff and the Program Manager presented seventeen (17) potential change orders (PCOs) with a total value of \$1.9 million for the WRF to the Water Reclamation Facility Citizens Advisory Committee (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). Since that time, the City and Program Manager have worked with the design-build team to value engineer Change Order No. 10 and reduce the cost by more than \$200,000. The City therefore amended the value for Amendment No. 1 to \$1,636,060 that was executed by the City in January 2020.

During Q3 FY 2019/2020 the City Manager authorized PCO No. 65, which was required to bring the design-build agreement in compliance with the appropriate prevailing wage rates (i.e., Davis-Bacon) required by the WIFIA and Clean Water State Revolving Fund (CSWRF) programs.

While no new change orders were approved in Q3 FY 2019/2020, the City and Program Manager have been negotiating several PCOs with the design-build team that will be brought to the Public Works Advisory Board (PWAB) and City Council in May 2020. The eighteen (18) approved change orders are summarized in Table 12 and 13.

Table 12 Summary of Approved Change Orders (Amendment No. 1)

Contract	Change Order No.	Description	Value
WRF	01	New Sodium Hypochlorite Feed for Plant Water	\$78,576
WRF	02	Change Architecture of Operations Building	\$(21,623)
WRF	03	Headworks Odor Control	\$18,422
WRF	04	Remove Canopy and Monorail at membrane bioreactor (MBR)	\$(185,434)
WRF	05	Consolidate Chemical Facilities	\$218,978
WRF	06	Modify Chemical Piping	\$(15,856)
WRF	07	Remove Solids Dumpster Lid	\$14,543
WRF	08	Add SAFE Equalization Tank	\$504,116
WRF	09	Instrumentation and Control Changes	\$75,266
WRF	10	Revise Maintenance Building Layout and Size	\$516,583
WRF	11	Influent Piping and Metering	\$411,766
WRF	12	Install Outdoor-Rated Positive Displacement Blowers at BNR Facility	\$(58,210)
WRF	13	Remove Bypass of Coarse Screens	\$(37,137)
WRF	14	SAFE Diversion Box Additions	\$58,304
WRF	15	Size Dewatering as a Building in the Future	\$30,983
WRF	16	Stairs for the Coarse Screens and Grit Basins (total of 4)	\$52,870
WRF	17	Indirect Potable Reuse (IPR) Product Water Tank Bypass	\$(26,087)
<b>Total</b>			<b>\$1,636,060</b>

Table 13 Summary of Approved Change Orders (Amendment No. 2)

Contract	Change Order No.	Description	Value
WRF	65	Davis-Bacon Wage Increases	\$63,937
<b>Total</b>			<b>\$63,937</b>

### 3.6 Reimbursement from Funding Agencies

In 2017, the City was awarded a \$10.3 million planning loan from the CWSRF program. To date, the City has made three reimbursement requests that will exhaust the planning loan. A summary of these requests are summarized in Table 14.

Table 14 Summary of Reimbursement Requests

Agency	Description	Date	Value
State Water Board	CWSRF Planning Loan	December 2018	\$289,595
State Water Board	CWSRF Planning Loan	November 2019	\$6,431,925
State Water Board	CWSRF Planning Loan	December 2019	\$3,860,506
<b>Total</b>			<b>\$10,582,026</b>

## 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 baseline schedule. The dark blue bars represent the current actual progress through March 2020. 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 current 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 running behind the planned 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 established 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 15 are the milestones in the TSO.

Table 15 Time Schedule Order Milestone Summary

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 <sup>(1)</sup>	-
Award of Contract for Construction of Conveyance Facilities	November 30, 2019	September 21, 2020	-
Completion of WRF Improvements with Completion Report	December 30, 2022	June 15, 2022	-
Full compliance with final effluent limitations	February 29, 2023	June 15, 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 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.



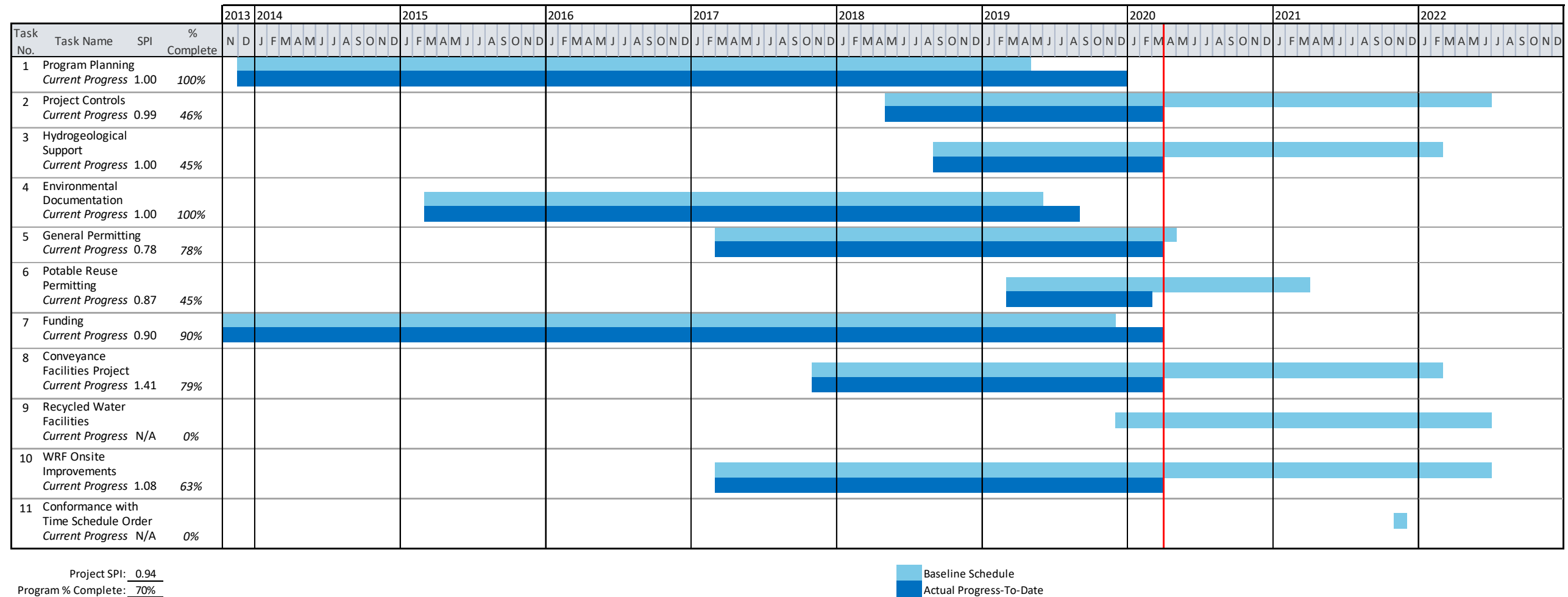


Figure 2 Project Summary Schedule





An expanded milestone schedule has also been developed for outstanding Project activities.

Table 16 Expanded Milestone Schedule

Milestone	Baseline Schedule due Date	Planned Completion Date
<b><u>General Project</u></b>		
Compliance with the TSO <sup>(1)</sup>	November 11, 2021	June 15, 2022
<b><u>Water Reclamation Facility</u></b>		
Begin Construction	August 08, 2019	March 20, 2020
Deliver 90 Percent Design	October 24, 2019	March 31, 2020
Substantial Completion	November 11, 2021	June 15, 2022
Final Completion	June 09, 2022	February 06, 2023
<b><u>Conveyance Facilities</u></b>		
Deliver 90 Percent Design	October 15, 2019	February 10, 2020
Deliver 100 Percent Design	December 17, 2019	June 19, 2020
Bid Advertisement	February 21, 2020	June 22, 2020
Award Construction Contract	May 08, 2020	September 21, 2020
Substantial Completion	September 17, 2021	March 29, 2022
Final Completion	November 19, 2021	May 21, 2022
<b><u>Recycled Water Facilities</u></b>		
Select Preferred Injection Area	May 28, 2019	May 22, 2020
Deliver 30 Percent Design	August 04, 2020	October 01, 2021
Deliver 60 Percent Design	November 10, 2020	January 07, 2022
Deliver 90 Percent Design	February 16, 2021	April 15, 2022
Deliver 100 Percent Design	April 27, 2021	June 24, 2022
Award Construction Contract	July 21, 2021	August 18, 2022
Substantial Completion	April 21, 2022	July 21, 2023
Final Completion	June 21, 2022	September 15, 2023

Notes:

(1) The TSO requires compliance with full secondary treatment by February 28, 2023.



## Section 5

# DESIGN AND PROCUREMENT

### 5.1 Design Status

No new design contracts for the Project were executed in Q3 Fiscal Year 2019/2020. A summary of the existing design contracts is included in Table 17 below.

Table 17 Procurement Status (through March 2020)

Project Name	Current Contract Amount	Amount Expended	30%	60%	90%	100%	Final
WRF	\$68,934,509	\$8,158,699	✓	✓	✓	NA	NA
Conveyance Facilities	\$1,869,707 <sup>(1)</sup>	\$1,018,473	✓	✓	✓		
Recycled Water Facilities	\$0	\$0					

Notes:

(1) The total value of the Water Works Engineers is \$2,052,387, but includes \$182,680 for re-engineering services during construction.

### 5.2 Procurement

No design or design-build contract procurements were performed in Q3 FY 2019/2020. Table 18 presents a summary of the procurement activity for the Project.

Table 18 Procurement Status (through March 2020)

Project Name	Circulate Request for Proposals	Proposal Opening Date	Council Award Date	Notice to Proceed Date	Consultant
WRF	January 24, 2018	May 8, 2018	October 23, 2018	November 01, 2018	Overland Contracting (Filanc-Black & Veatch)
Conveyance Facilities	January 31, 2017	March 8, 2017	November 14, 2017	November 15, 2017	Water Works Engineers
Recycled Water Facilities	Design Engineer to be Selected in 2020				



## Section 6

# CONSTRUCTION STATUS

### 6.1 Construction Summary

During Q3 Fiscal Year 2019/2020, construction began for the WRF. Table 19 presents a summary of project construction progress and costs through December 2019.

Table 19 Project Construction Costs

Project Name	Amount Expended	Initial Contract Amount	Current Contract Amount	% Change in Contract Amount
WRF	\$8,158,699	\$67,234,512	\$68,934,509	2.5
Conveyance Facilities	\$0	\$0	\$0	0
Recycled Water Facilities	\$0	\$0	\$0	0
<b>Construction Total</b>	<b>\$0</b>	<b>\$67,234,512</b>	<b>\$68,934,509</b>	<b>2.5</b>

### 6.2 Upcoming Traffic Control

#### 6.2.1 Planned Impacted Areas

As the Conveyance Facilities component of the Project has not yet started construction, no traffic control activities are planned at this time.

#### 6.2.2 Hours of Planned Lane/Road Closures

As the Conveyance Facilities component of the Project has not yet started construction, no lane or road closures are planned at this time.

### 6.3 Construction Safety

The City issued a notice to proceed to the design-build contractor for the WRF on March 20, 2020 in the midst of a shelter in place order for the County of San Luis Obispo as a response to the COVID-19 pandemic. As an essential infrastructure project under County Order (11.c.1), construction has been allowed to continue during this time. Safety is the first priority for the City, Program Manager, and contractor, and the following measures have been implemented to maintain worker safety and minimize the risk to the surrounding community including:

- Program Manager instructed the design-build team to update their Illness and Injury Prevention Plan (IIPP) to include provisions for COVID-19.
- Program Manager sent the Los Angeles Building and Safety COVID-19 Guidance for Construction Sites to the design-build team. This manual is being looked to as a model for best practices in the industry.

It should be noted that all of the Filanc field staff are currently living in the same house in Morro Bay, essentially isolating together, which could explain why a group of worker may be seen congregating together.

The Project safety goal is zero reportable incidents. There has been a total of zero reported incidents through March 2020.

## Section 7

# OTHER PROGRAM ACTIVITIES

### 7.1 Public Outreach

Through Q3 Fiscal Year 2019/2020, contact has been made with approximately 80 businesses along the Conveyance Facilities alignment, including one-on-one meetings and pop-ins to drop-off Project information. The purpose of the one-on-one meetings is to give businesses a status update and gather business access and operations information that can help inform the development of construction work restrictions and traffic handling requirements. In addition, two meetings have been held with the Morro Bay Chamber of Commerce (MBCC) and member businesses to discuss traffic control handling approaches.

Important information gathered includes parking information, driveway access and off-street circulation, large delivery/pick up vehicle scheduling, hours of operation and peak business times, types of customer traffic (appointments and walk-ins, vehicle and pedestrian) and point of contact verification. Information gathered from the business outreach was compiled by the Program Manager to incorporate the construction work restrictions and traffic handling requirements for into the Conveyance Facilities design. A series of alignment maps and an overview presentation was developed to visually communicate the traffic handling planning and work restriction information.

In March 2020, communications were developed and distributed to announce the execution of the WIFIA loan. Seven news articles were placed based on the WIFIA news release.

In April 2020, the Program Manager is planning to launch a new website as an online hub of project documents, informational materials and construction information.

### 7.2 Permitting Activities

Permit compliance is an important aspect of the Project. The current permitting activities include:

- Division of Drinking Water (DDW).
  - Continued developing the Enhanced Source Control Program (ESCP) required by the DDW for potable reuse projects.
- USFWS.
  - Completed the Section 7 consultation with the USFWS for the CRLF with receipt of the Final BO, which allowed the City to sign the loan agreement and CWSRF to complete their environmental review.
- Caltrans
  - Continued working with Caltrans to obtain the encroachment permit necessary to construct the Conveyance Facilities pipelines.

- CDFW.
  - Submitted formal notification to CDFW for the erosional feature located on the WRF site. The City maintains that this erosional feature is not a water of the state and should not be a jurisdictional feature.
  - Began working on the formal notification necessary to obtain a stream bed alteration agreement for the Conveyance Facilities component of the Project.

### 7.3 Funding Status

- Execution of a \$61.7 million loan agreement with the EPA's WIFIA program.
- Completion of the CWSRF staff's environmental review allowing the City to begin construction of the WRF.
- Continued to support CWSRF's technical, legal, and financial reviews. The City anticipates signing a loan agreement with CWSRF by the end of 2020.
- Submitted a feasibility study for the United States Bureau of Reclamation (USBR) Title XVI Grant Program. The City plans to have an approved feasibility study and be eligible for the Title XVI Grant Program in 2020. The program will fund up to half of the total project costs not to exceed \$20 million.

### 7.4 City Operations Activity

The current City Operations activities include:

- Significant City Operations activities are not anticipated until start-up of the WRF begins in October 2021.



## Section 8

# PROJECT DETAILS

### 8.1 Water Reclamation Facility

#### 8.1.1 Design/Build

In October 2018, the City executed a contract with Overland Contracting consisting of a joint venture of Filanc and Black & Veatch (i.e., design-build team) for design and construction of the WRF located at the South Bay Boulevard site. The WRF will be delivered using the design-build process.

#### 8.1.2 Project Scope

The scope of this element of the Project includes a preliminary, secondary, and advanced treatment facilities. The secondary treatment processes will consist of a MBR and have the ability to exceed the anticipated discharge requirements for the City's new National Pollution Discharge Elimination System (NPDES) permit. The advanced treatment facilities include RO and Ultraviolet Advanced Oxidation Process (UVAOP). Purified water from the advanced treatment facilities will be injected into the Lower Morro Groundwater Basin.

#### 8.1.3 Current Progress



The design-build team delivered the 90-percent design deliverable at the end of March 2020. The design-build team will incorporate the City's comments on the 90-percent design deliverable and submit an issued for construction (IFC) set of plans and specifications in May 2020. Upcoming Activities

Construction at the South Bay Boulevard site began in late March 2020.

#### 8.1.4 Project Challenges

Access to part of the South Bay Boulevard site is currently being impacted by the ongoing process with CDFW.

Table 20 WRF Performance Measures

Performance Measures	Target	Current	Status
Construction Cost <sup>(1),(2)</sup>	\$67.2M	\$68.9M	
Construction Contingency <sup>(3),(4), (5)</sup>	\$6.2M	\$7.5M	

Notes:

- (1) Project budget and current contract amount ( $\leq 5\%$  over target = Green, between 5% and 10% over target = Yellow,  $>10\%$  over target = Red).
- (2) The GMP includes costs for both design and construction of the WRF.
- (3) Project budget and current amount ( $\leq 50\%$  of target = Green, between 0% and 50% of target = Yellow,  $\leq 0\%$  of target = Red).
- (4) The Program Manager initially allocated \$6.2 million for contingency for the WRF component of the project. With execution of Amendment No. 1 and 2, \$1.7 million has been moved from contingency to the GMP leaving \$4.5 million in contingency.

- (5) In anticipation of approximately \$6.0 million in additional PCOs that will be considered by the City Council in May 2020, the City and Program Manager are recommending the addition of \$2.9 million to contingency for the Project.

Table 21 WRF Construction Summary

Schedule			
Request for Bid / Bid Advertisement	January 24, 2018		
Bid Opening Date	May 08, 2018		
Contract Award / Council Award Date	October 23, 2018		
Notice to Proceed for Construction	March 20, 2020		
Original Final Completion Date	June 09, 2022		
Original Duration (Non-Working Days)	1,325		
Days Changed by Change Order	242		
Actual Final Completion Date (including Non-Working Days)	February 06, 2023		
Schedule Percent Complete	33.5%		
Budget			
Engineer's Estimate (Construction Cost + 10% Construction Contingency)	\$73,475,845		
Award Amount (including Design Cost)	\$67,234,512		
Change Order Total	\$1,699,997		
Current Contract Value	\$68,934,509		
Percent Change	2.5%		
Work Completed			
Actual Cost -to-Date	\$8,158,699		
Percent Complete (Percent Expended)	11.8%		
Construction Oversight Statistics			
	PCOs	COs	NOPCs
Total Received	74	N/A	3
Total Approved	N/A	17 <sup>(1)</sup>	2 <sup>(2)</sup>
Total Pending	24	N/A	1
Average Turnaround (calendar days)	N/A	N/A	N/A

Acronym List:

PCO – Proposed Change Order; CO – Change Order; NOPC – Notice of Potential Claim

Notes:

(1) 17 PCOs have been approved and are reflected in Amendment No. 1 and 2 to the design-build agreement.

(2) Two (2) notice of potential claims are addressed with the PCOs.

## 8.2 Conveyance Facilities

### 8.2.1 Designer

In November 2017, the City executed a contract with WWE for design and engineering support for the facilities necessary to connect the existing WWTP and the new WRF.

### 8.2.2 Contractor

This element of the Project is being delivered via a conventional design-bid-build procurement process. The Conveyance Facilities are currently under design and will begin construction in the summer of 2020.

### 8.2.3 Project Scope

The Conveyance Facilities originally included the design of approximately 3.5 miles of pipelines and a lift station located near the existing WWTP. The pipelines include two raw wastewater force mains and a wet weather/brine discharge force main. Several changes to the Conveyance Facilities have occurred since the contract was executed with WWE including the addition of a second, smaller lift station near the intersection of Main Street and Highway 1 and the addition of the potable reuse transmission main to either the east or west injection site.

### 8.2.4 Current Progress

In February 2020, WWE delivered the 90 percent design submittal. WWE is currently incorporating comments to the 90-percent design deliverable and plans to complete the design in May 2020.






### 8.2.5 Upcoming Activities

With submission of the final design in May 2020, the City will soon be advertising this element of the Project.

### 8.2.6 Project Challenges

The City continues to work with PG&E and Vistra to secure the easements necessary to construct the pipelines in the City's existing bike path and replace the force main from Lift Station 2.

Table 22 Conveyance Facilities Performance Measures

Performance Measures	Target	Current	Status
Construction Cost <sup>(1)</sup>	\$0.0M	\$0.0M	
Construction Contingency <sup>(2)</sup>	\$2.5M	\$0.0M	
Number of Feet of Pipelines Constructed <sup>(2)</sup>	18,500 LF	0 LF	
Number of Days of Full Road Closures <sup>(1)</sup>	0 Days	0 Days	
Number of Hours of Night Work	0 Hours	0 Hours	

Notes:

- (1) Project budget and current contract amount ( $\leq 5\%$  over target = Green, between 5% and 10% over target = Yellow,  $>10\%$  over target = Red).
- (2) Project budget and current amount ( $\leq 50\%$  of target = Green, between 0% and 50% of target = Yellow,  $\leq 0\%$  of target = Red).

Table 23 Conveyance Facilities Summary

Schedule					
Request for Bid / Bid Advertisement				NA	
Bid Opening Date				NA	
Contract Award / Council Award Date				NA	
Notice to Proceed for Construction				NA	
Original Final Completion Date				NA	
Original Duration (Non-Working Days)				NA	
Days Changed by Change Order				0	
Actual Final Completion Date (including Non-Working Days)				NA	
Schedule Percent Complete				0%	
Budget					
Engineer's Estimate (Construction Cost + 10% Construction Contingency)				\$26,692,000	
Award Amount				\$0	
Change Order Total				\$0	
Current Contract Value				\$0	
Percent Change				0%	
Work Completed					
Actual Cost -to-Date				\$0	
Percent Complete (Percent Expended)				0%	
Length of Pipe Installed (actual to date / planned total)				0 LF / 18,500 LF	
Construction Management Statistics					
	RFIs	Submittals	PCOs	COs	NOPCs
Total Received	0	0	0	0	0
Total Responded To	0	0	0	0	0
Total Pending	0	0	0	0	0
Average Turnaround (calendar days)	0	0	N/A	N/A	N/A

Acronym List:

RFI – Request for Information; PCO – Proposed Change Order; CO – Change Order; NOPC – Notice of Potential Claim

## 8.3 Recycled Water Facilities

### 8.3.1 Designer

Procurement activities for the designer for the Recycled Water Facilities have not yet been started, but it is anticipated that design will begin in 2020 following completion of the Phase 1, Phase 2, and Phase 3 hydrogeological work by GSI.

### 8.3.2 Contractor

This element of the Project is being delivered via a conventional design-bid-build procurement process. The Recycled Water Facilities are currently under design and will begin construction in the spring of 2020.

### 8.3.3 Project Scope

Since the potable reuse pipeline from the WRF to the selected injection site was moved into WWE's scope for design of the Conveyance Facilities, this element of the Project consists primarily of full-scale injection wells at either the west or east injection sites.

### 8.3.4 Current Progress

Since beginning work in November 2018, GSI has completed several of the tasks necessary to inject purified water with a series of injection wells in the Lower Morro Groundwater Basin. To this end, GSI has:

- Installed groundwater monitoring devices in all of the City's active production wells and seawater wells.
- Utilized the numerical groundwater model of the Lower Morro Groundwater Basin for particle tracking and solute transport modeling.
- Characterized the Eastern (Narrows) area of the basin with cone penetration testing (CPT), characterized the hydrogeological characteristics of the Narrows area with installation of a monitoring well and conducting aquifer testing.
- Began coordination with Vistra for the evaluation of the western injection site through use of an injection well.
- Developed a draft report that recommends the Western injection area as the preferred injection location.
- Determined that the Morro Bay Mutual Water Company (MBMWC) well is not sufficient for use as a pilot injection well.

### 8.3.5 Upcoming Activities

On March 18, 2020, GSI delivered a technical memorandum summarizing the characterization of the Eastern and Western injection areas and confirming a preferred injection location. The City and Program Manager are reviewing the draft report and will be providing comments to GSI shortly. Once these comments have been incorporated, the results of the analysis will be brought to PWAB for review, likely in June 2020.

GSI's analysis indicates that the west injection area is preferred for the following reasons:



- Higher transmissivity exists in the Western area compared to the Narrows area.
- Retention times are longer from the Western area than from the Narrows area.
- Injection wells located in the Western project area would provide greater mitigation against seawater intrusion during dry periods.
- Western area is undeveloped, potentially resulting in fewer constructability issues.
- The potable reuse pipeline alignment is immediately adjacent to the Western area.

GSI recommends a longer-term pumping test using City wells, injection and tracer testing, and geophysical characterization of a bedrock ridge, and careful site-selection of potential injection well. While the numerical modeling results indicate that the Project is hydrogeologically feasible, the retention times, discussions between GSI and Program Manager indicate the Project would benefit from some additional modeling being done before drilling a pilot injection well and performing the injection testing. The City and Program Manager are working with GSI to initiate this modeling.

### 8.3.6 Project Challenges

Previously, access challenges for the Vistra property prevented GSI from accessing the MBMWC well to perform the pump testing and determine its feasibility for use as a pilot injection well. Now that the pump testing has been completed, and it has been determined that the well is not acceptable for pilot injection testing, the City will need to drill a new pilot injection well.

Table 24 Recycled Water Facilities Performance Measures

Performance Measures	Target	Current	Status
Construction Cost <sup>(1)</sup>	\$0.0M	\$0.0M	
Construction Contingency <sup>(2)</sup>	\$0.3M	\$0.0M	

Notes:

- (1) Project budget and current contract amount ( $\leq 5\%$  over target = Green, between 5% and 10% over target = Yellow,  $> 10\%$  over target = Red).
- (2) Project budget and current amount ( $\leq 50\%$  of target = Green, between 0% and 50% of target = Yellow,  $\leq 0\%$  of target = Red).

Table 25 Recycled Water Facilities Summary

Schedule					
Selection of the Injection Site					NA
Request for Bid / Bid Advertisement					NA
Bid Opening Date					NA
Contract Award / Council Award Date					NA
Notice to Proceed for Construction					NA
Original Final Completion Date					NA
Original Duration (Non-Working Days)					NA
Days Changed by Change Order					0
Actual Final Completion Date (including Non-Working Days)					NA
Schedule Percent Complete					0%
Budget					
Engineer's Estimate (Construction Cost + 10% Construction Contingency)					\$3,300,000
Award Amount					\$0
Change Order Total					\$0
Current Contract Value					\$0
Percent Change					0%
Work Completed					
Actual Cost -to-Date					\$0
Percent Complete (Percent Expended)					0%
Work Completed					
	RFIs	Submittals	PCOs	COs	NOPCs
Total Received	0	0	0	0	0
Total Responded To	0	0	0	0	0
Total Pending	0	0	0	0	0
Average Turnaround (calendar days)	0	0	N/A	N/A	N/A

Acronym List:

RFI – Request for Information; PCO – Proposed Change Order; CO – Change Order; NOPC - Notice of Potential Claim

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