



MORRO BAY
OUR WATER
RELIABLE. CLEAN. FOR LIFE.



City of Morro Bay
Water Reclamation Facility Program

QUARTERLY REPORT – ENDING June 30, 2024

FY 2023-2024
July 1, 2023 through June 30, 2024



CONFLUENCE
ENGINEERING SOLUTIONS

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EXECUTIVE SUMMARY

“Our Water” is the City of Morro Bay’s (City) program to plan and build water and wastewater infrastructure for a sustainable future for the environment, our economy, and the community. This report summarizes key accomplishments and challenges from the four quarters (Q1 to Q4) of the 2023-24 fiscal year (FY 23/24). It includes information and data on the overall program budget and the status of the individual program components.

ES.1 Progress during FY 23/24

The Water Resources Center (WRC) and Conveyance Facilities have both reached final completion and are fully operational. The close out of the Filanc Black & Veatch (FBV) construction contract for the WRC was approved by City Council on April 9th, 2024. The close out of the Anvil Builders construction contract for the Conveyance Facilities Project was approved by City Council on April 9th, 2024, as well. The Recycled Water Facilities (RWF) is 22 percent complete and is anticipated to be complete by Fall 2026. Major accomplishments are summarized below.

ES.2 Budget Status

The current program budget is \$159.84 million and \$145.19 million has been spent to date.

ES.3 Key Accomplishments in FY 23/24.

- FBV completed all of the construction punch list items.
- Construction Contract of the WRC reached final completion in January 2024.
- Anvil completed all of the construction punch list items.
- Construction contract for the Conveyance Facilities reached final completion in March 2024.
- All phases (Phases I through IV) of the ultraviolet (UV) disinfection challenge testing at the WRC were completed.
- The City successfully negotiated the contract terms and conditions of an Amendment to the State Revolving Fund Construction Loan Amendment including an additional \$21 million dollars of low-interest financing available for the project (amendment execution anticipated by August 2024).
- The City advertised a contract for engineering design services for the design of the recycled water facilities component of the program.
- Confluence Engineering Solutions (Confluence) is the Program Manager for the recycled water facilities component of the WRF Program. Carollo Engineers (Carollo) will continue to lead the permitting effort of the recycled water facilities.
- GSI Water Solutions (GSI) completed the Revised Draft Basis of Design Report (BOD) for the Indirect Potable Reuse (IPR) recycled water injection and extraction program based on the Cleath-Harris Geologists (CHG) Peer Review.
- On June 11, 2024, the City Council selected the Cannon Corporation out of San Luis Obispo for engineering design services for the injection wells and recycled water pipelines, and approved contract amendments for Program Management, Permitting Support, and Hydrogeologic Support Services.

- Between June 12, 2024 and June 21, 2024, City staff and the Recycled Water Program Team oversaw the completion of archeological and hydrogeologic coring/testing at the proposed injection well locations and archeological testing along the proposed pipeline alignments.

ES.4 Challenges and Upcoming Activities

The program team continues to progress recycled water facilities planning, design and permitting activities. The program manager, Confluence, continues to develop the Phase 1 RWF Implementation Strategy using findings from the Water Supply Evaluation Model, BODR, and IPR Pipeline Alignment Alternatives Analysis.

Section 1

PROGRAM MANAGEMENT SUMMARY

1.1 Purpose of the Quarterly Progress Report

The Water Reclamation Facility (WRF) program quarterly progress report describes current budget status, funding agency reimbursements, planning/design and construction activities, and project component schedules. Abbreviations used throughout this quarterly progress report are found in Appendix A.

1.2 Program Budget

Table 1 shows the current program budget.

Table 1 WRF Program Budget

Program Component	Baseline ⁽¹⁾	FY 21/22	FY 22/23 ⁽²⁾	FY 23/24 ⁽³⁾	Current % Change From Baseline
WRC Plant	\$62,414,000	\$77,687,023	\$79,643,216	\$79,123,216	27%
Conveyance Facilities	\$21,087,000	\$37,982,000	\$39,774,724	\$40,324,350	91%
RWF	\$8,593,000	\$6,668,000	\$9,424,174	\$9,424,174	10%
General Project	\$24,403,000	\$15,445,000	\$30,998,235	\$30,968,609	27%
Construction Contingency	\$9,444,000	\$6,892,854	Note 2	Note 2	N/A
Total	\$125,941,000	\$144,674,877	\$159,840,349	\$159,840,349	27%

Notes:

Abbreviations: FY – fiscal year.

(1) Baseline budget established Q4 of FY 2017/2018.

(2) The FY 22/23 budget adopted by City Council on June 28, 2022, was \$159,840,349. As of FY 22/23, the construction and overall program contingency is budgeted within each Program Component.

(3) The FY 23/24 budget adopted by City Council on June 13, 2023 was \$159,840,349 and allocated as shown.

Table 2 shows the initial and current contract values by project component.

Table 2 Project Component Contract History

Project Component	Contractor	Initial Contract Value	Current Contract Value	% Change
WRC Plant		\$67,234,512	\$79,000,000	17%
Design/Build	FBV (Overland)	\$67,234,512	\$79,000,000	17%
Conveyance Facilities		\$33,315,112	\$42,350,755	27%
Design	WWE	\$1,360,565	\$2,615,113	92%

Project Component	Contractor	Initial Contract Value	Current Contract Value	% Change
Construction	Anvil Builders	\$31,493,675	\$37,264,606	18%
Permitting	Cogstone, Far Western, KMA	\$460,872	\$2,471,036	436%
RWF		\$2,313,326	\$3,456,714	49%
Planning and Modeling	GSI, Cleath Harris	\$443,650	\$1,391,363	214%
Pilot Injection Well Construction	ABC Liovin, Pacific Coast Well Drilling	\$356,585	\$365,260	2%
Environmental Permitting	Rincon, Far Western, KMA	\$267,830	\$454,830	70%
Injection Wells Design	GSI, Cannon, WWE	\$1,245,261	\$1,245,261	0%
Injection Wells Construction	To Be Determined	--	--	--
General Project		\$920,619	\$14,991,033	1528%
Program and Construction Management – WRC, Conveyance	Carollo ⁽¹⁾	\$293,000	\$13,508,401	4510%
Program Management – RWF	ConfluenceES ⁽²⁾	\$627,619	\$967,532	54%
City Contracts	Note 3	Note 3	\$515,100	--
Total		\$103,783,569	\$139,798,502	--

Notes:

Abbreviations: WWE – Water Works Engineers; KMA – Kevin Merk Associates; GSI – GSI Water Solutions.

- (1) Carollo’s program management costs for the WRC and Conveyance Facilities include permitting, public outreach, funding support, and construction oversight/management.
- (2) ConfluenceES’s program management costs for RWF include funding & financing, and oversight of hydrogeologic evaluation, environmental & permitting, and design.
- (3) Initial City Contract values for previous and/or inactive consultants (such as Michael K. Nunley and Associates, Black & Veatch, Environmental Science Associates, and Kestrel) are unknown. Current contract values are shown only for FY 23/24 active consultants including Bartle Wells Associates, Cannon, and James S. Phillips Automation.

1.3 Cashflow Projections and Actual Expenditures

Figure 1 shows cashflow projections and actual expenditures through the current period.

Table 3 lists actual expenditures for each program component and the percent of the budget expended.

Table 3 WRF Program Expenditures

Program Component	Previous Total Expenditures	FY 23/24 Expenditures ⁽¹⁾	Total Expenditures To Date	FY 23/24 Budget ⁽²⁾	Percent Budget Expended
WRC Plant	\$75,070,065	\$2,825,171	\$77,895,236	\$79,123,216	98%
Conveyance Facilities	\$39,855,190	\$1,036,012	\$40,891,202	\$40,324,350	101%
RWF	\$1,433,276	\$639,019	\$2,072,295	\$9,424,174	22%
General Project	\$23,214,862	\$1,118,859	\$24,333,721	\$30,968,609	79%
Total	\$139,573,393	\$5,619,061	\$145,192,454	\$159,840,349	91%

Notes:

- (1) Q1 through Q4 FY 23/24 total expenditures as tallied on the Accounts Payable Report run on August 6, 2024, including all fiscal year invoices accrued through June 30, 2024. See Appendix B Note 2 for additional details.
- (2) The FY 23/24 budget adopted by City Council.

1.4 Program Funding

Table 4 lists WRF program funding sources.

Table 4 WRF Program Funding Sources

Funding Agency	Funding Type	Amount Financed	Initiation Date	Terms
SWRCB – CWSRF Construction Loan	Low Interest Loan	\$66,604,638	7/1/2021	0.9%, 30 years
SWRCB – CWSRF Construction Loan Amendment	Low Interest Loan	\$21,172,000	Anticipated in August 2024	0.9%, 30 years
EPA – WIFIA	Low Interest Loan	\$61,700,336	3/9/2020	0.83%, 35 years
SWRCB – CWSRF Planning Loan	Low Interest Loan	\$10,300,000	12/11/2015	0.9%, 30 years
Recycled Water Planning Grant	Grant	\$75,000	9/10/2015	Costs reimbursed upon request
Total		\$159,851,974		

Notes:

Abbreviations: CWSRF – Clean Water State Revolving Fund; EPA – Environmental Protection Agency; WIFIA – Water Infrastructure Finance and Innovation Act.

Appendix C provides detailed information on funding reimbursements.

1.5 Program Schedule Overview

In June 2018, the City received a Time Schedule Order (TSO) from the Regional Water Quality Control Board that required the City to achieve full operation of the new WRC by February 2023. The key milestones included in the TSO are included in Appendix D, and the overall program schedule is shown in Figure 2. The current construction progress percent complete to date per contract spent is 100 percent for the WRC and 100 percent for Conveyance Facilities. Figure 3, Figure 4, and Figure 5 show the current progress schedules with respect to major milestones. The RWF currently is at a project progress of 22 percent which represents the completion of the test injection well, Basis of Design Report and initial development of the injection well and recycled water pipeline design.

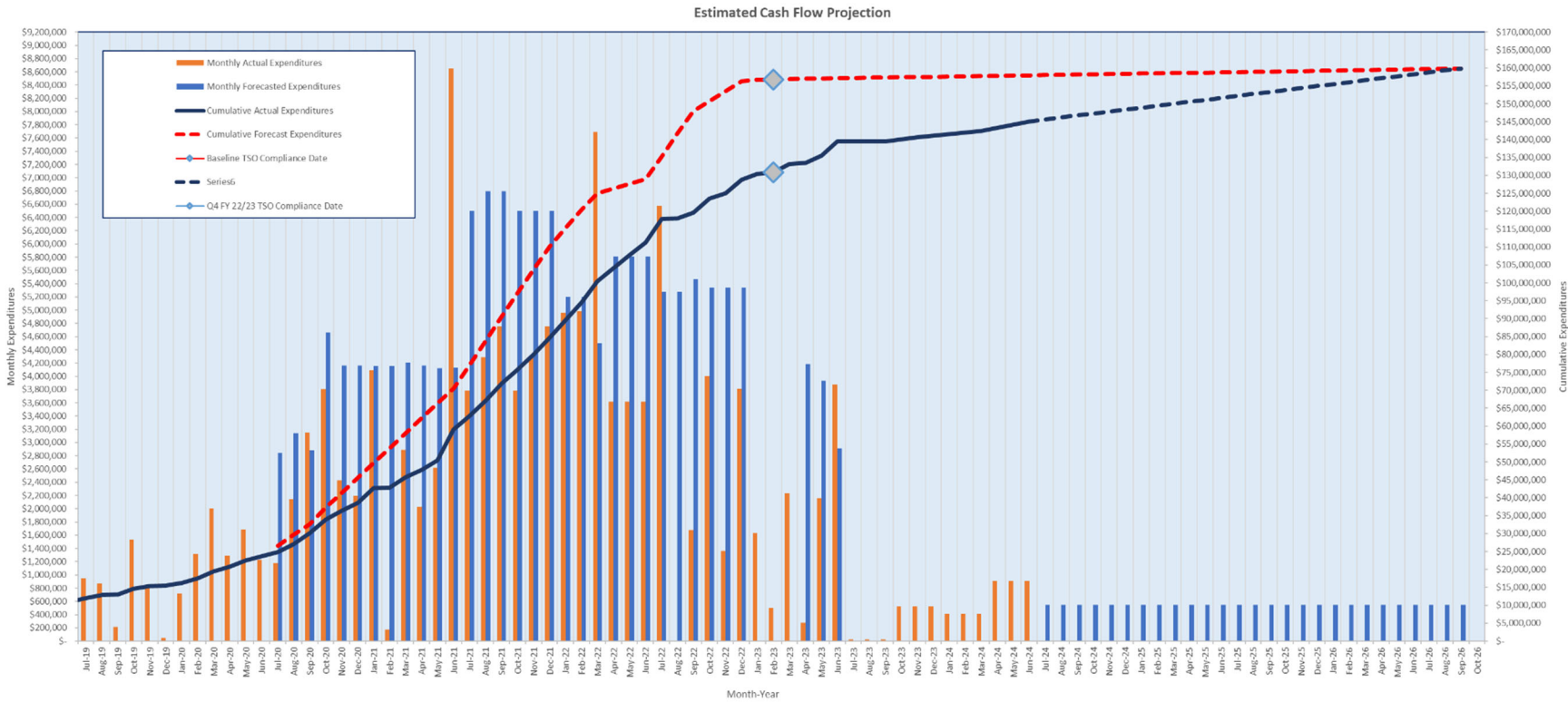


Figure 1 Program Cash Actual and Forecasted Expenditures



Morro Bay WRF Program
 Program Wide Schedule Summary
 Updated: FY23-24

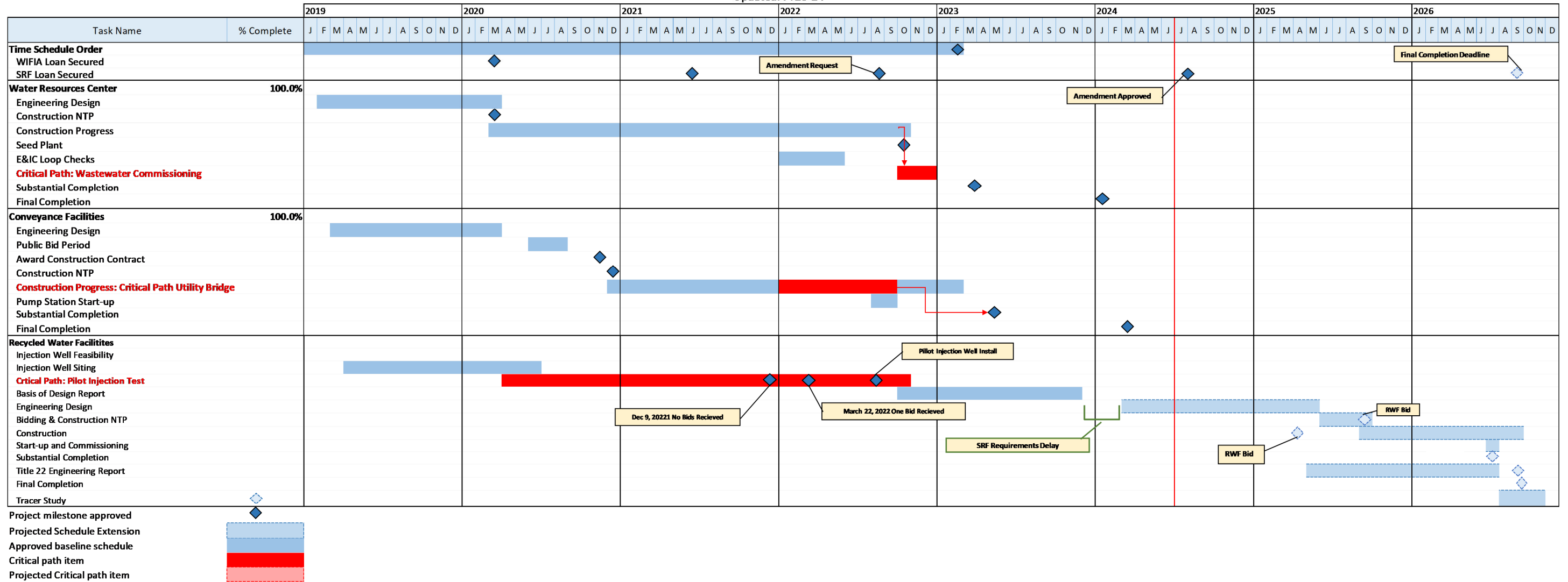


Figure 2 Program-Wide Summary Schedule

Section 2

WRC PROJECT

2.1 Construction Progress Summary

Major accomplishments during this period are summarized below.

General and Administrative

- The City has completed the TSO milestone requirement of full operation of wastewater treatment facilities in compliance with the State National Pollutant Discharge Elimination System (NPDES) permit and other regulatory requirements.
- Contractor has completed the construction close out punchlist. The WRC received final completion in January 2024.
- Contractor/subcontractors complied with Davis-Bacon Act requirements throughout the construction of the entire WRC project. All labor compliance materials have been provided to the City for any public information requests.
- FBV, Carollo, and the City completed Phases I through IV of the UV-Challenge Test.
- The Final contract cost for the WRC was \$79,000,000. FBV's final contract amendment was approved by City Council on April 9th, 2024.

Headworks

- Completed and in service.

Biological Nutrient Removal/Membrane Bioreactor Treatment

- Completed and in service.

Reverse Osmosis/UV Advanced Oxidation Process (AOP)

- Completed and in service.

Purified Water Facilities

- Completed.

Residuals/Sludge Processing

- Completed and in service.

Electrical and Controls

- Completed and in service.

Chemical Storage and Feed

- Completed and in service.

Operations Building

- Building is completed and occupied by City staff.

Maintenance Building

- Building is completed and occupied by City staff.

City Yard Facilities

- Buildings are completed and occupied by City staff.

2.2 Project Photographs

There are no construction photographs to include since the plant construction is complete and operational.

2.3 Contract Amendment Summary

Table 5 contains a summary of the contract amendments for the WRC project component. Each amendment included multiple change orders to address changes in scope from the original proposal. A detailed summary of each amendment is provided in Appendix E.

Table 5 WRC Project Contract Amendment Summary

Amendment No.	Council Approval Date	Amount
1	May 2019	\$1,636,060
2	March 2020	\$63,937
3	May 2020	\$5,992,218
4	November 2020	\$835,097
5	March 2021	\$(195,946)
6	September 2021	\$1,132,117
7	June 2022	\$0
Revised 7	August 2022	\$359,885
8	November 2022	\$957,418
9	May 2023	\$409,028
10	April 2024	\$575,674
Total		\$11,765,488

2.4 Project Schedule

Figure 3 shows the WRC construction and start-up schedule.



Morro Bay WRF Program
 WRC Project Component Schedule Summary
 Updated: FY23/24

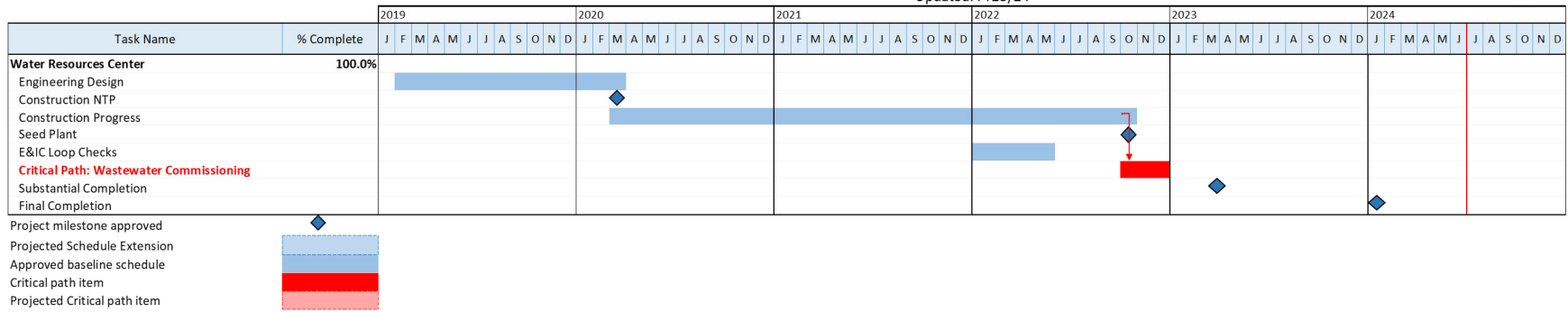


Figure 3 WRC Project Component Schedule

Section 3

CONVEYANCE FACILITIES PROJECT

3.1 Construction Progress Summary

Major accomplishments during this period are summarized below.

General and Administrative

- The City has completed the TSO milestone requirement of full operation of the wastewater treatment facilities in compliance with the State NPDES permit and other regulatory requirements.
- Contractor has resolved all punch list items and was responsive to warranty items.
- Contractor/subcontractors complied with Davis-Bacon Act requirements throughout the duration of construction. All labor compliance materials have been provided to the City for any public information requests.
- Anvil Builders, Water Works Engineers (design engineer for the Conveyance Facilities), Carollo and the City coordinated on the effluence discharge line (brine line) capacity issues extensively. As of May 2024, City Staff and Water Works were coordinating a means of testing the effluent discharge capacity.
- The Final contract cost for the Conveyance Facilities was \$37,264,606. Anvil’s final contract amendment was approved by City Council on April 9th, 2024 for \$880,000.
 - \$200,000 of retainage continues to be held by the City for any improvements needed to address the capacity of the effluent discharge line.

Sanitary Sewer Pump Stations

Pump Station A

- Pump Station facility is completed and in service.

Pump Station B

- Pump Station facility is completed and in service.

Existing Lift Station 2

- Pump Station connection is completed and in service.

Existing Lift Station 3

- Connection to existing Lift Station 3 was completed.

Pipelines

Segment 1 – Atascadero Road (Existing City Wastewater Treatment Plant to Bike Path)

- Pipelines and other facilities in this segment are completed and in service.

Segment 2 – Bike Path (Atascadero Road to Morro Creek Foot Bridge)

- Pipelines and other facilities in this segment are completed and in service.

Segment 3 – Bike Path (Morro Creek Foot Bridge to Main Street)

- Pipelines and other facilities in this segment are completed and in service.

Segment 4 – Main Street (Bike Path to Quintana Road)

- Pipelines and other facilities in this segment are completed and in service.

Segment 5 – Quintana Road (Main Street to Morro Bay Boulevard)

- Pipelines and other facilities in this segment are completed and in service.

Segment 6 – Quintana Road (Morro Bay Boulevard to La Loma Avenue)

- Pipelines and other facilities in this segment are completed and in service.

Segment 7 – Quintana Road (La Loma Avenue to South Bay Boulevard)

- Pipelines and other facilities in this segment are completed and in service.

Segment 8 – South Bay Boulevard (Quintana Road to New Morro Bay WRC)

- Pipelines and other facilities in this segment are completed and in service.

Segment 9 – Vistra Property (Bike Path to Existing Lift Station 2)

- Pipelines and other facilities in this segment are completed and in service.

3.2 Project Photographs

There are no construction photographs to include since the Conveyance Facilities construction is complete and operational.

3.3 Change Order Summary

Table 6 contains a summary of the contract amendments for the Conveyance Facilities project component. Each amendment included multiple change orders to address changes in scope from the original proposal. A detailed summary of each amendment is provided in Appendix F.

Table 6 Conveyance Facilities Contract Amendment Summary

Amendment No.	Council Approval Date	Amount
1	October 2021	\$674,485
2	January 2022	\$587,502
3	March 2022	\$241,317
4	June 2022	\$(54,065)
5	August 2022	\$1,253,667
6	November 2022	\$646,763
7	February 2023	\$124,970
8	May 2023	\$1,416,292
9	April 2024	\$880,000
Total		\$5,770,931

3.4 Project Schedule

Figure 4 shows the Conveyance Facilities construction and start-up schedule.



Morro Bay WRF Program
 Conveyance Project Component Schedule Summary
 Updated: FY23/24

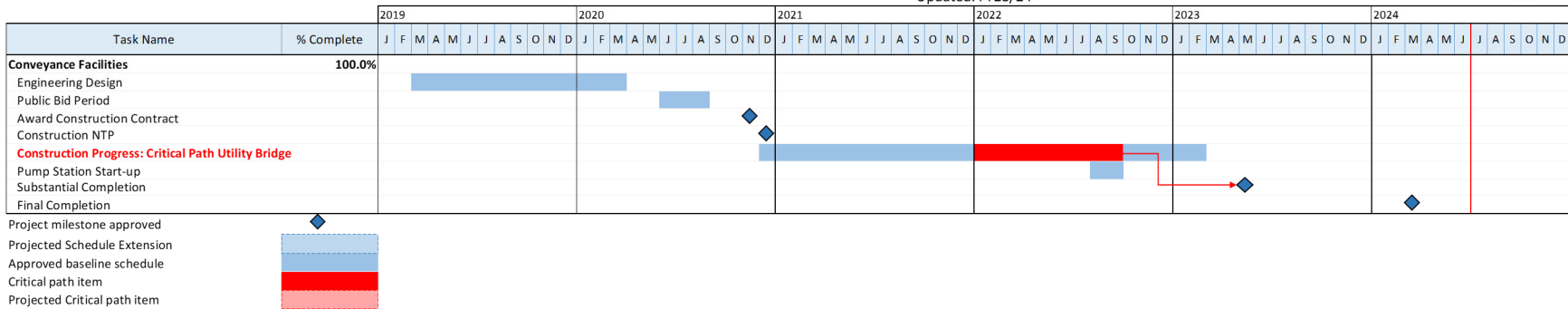


Figure 4 Conveyance Facilities Project Component Schedule

Section 4

RECYCLED WATER FACILITIES PROJECT

4.1 Project Progress Summary

The RWF project of the WRF program is currently in the design phase. The City recently completed archeological and hydrogeological testing for potential injection and is beginning design of the recycled water injection wells and pipelines. The following activities were completed during previous quarters.

4.1.1 Q1 Pre-Construction Project Progress – July 1, 2023 through September 30, 2023

- GSI Water Solutions (GSI) completed the Revised Draft Basis of Design Report (BOD) for the Indirect Potable Reuse (IPR) recycled water injection and extraction program based on the Cleath-Harris Geologists (CHG) Peer Review
- The WRF Program Team completed the Ultraviolet/Advanced Oxidation Process (UV/AOP) and began preparing the report for the Division of Drinking Water review and approval consideration.
- Water Works Engineers completed an IPR pipeline alignment alternatives analysis to inform the WRF Program Team on options for conveying advanced purified water to the injection well locations identified in the BOD.
- Rincon Consultants provided input on the environmental review requirements for the IPR pipeline alignment alternatives.
- Carollo Engineers continued preparation of the Report of Wastewater Discharge (ROWD) Application for the IPR Program.
- Confluence Engineering Solutions (ConfluenceES) continued evaluation of the City's water supply portfolio through use of the Water Supply Evaluation Model to evaluate near-term and build-out IPR recycled water requirements for providing the City with a reliable/resilient water supply portfolio.
- ConfluenceES developed the Phase 1 Recycled Water Program Implementation Strategy, incorporating findings from the Water Supply Evaluation Model, BOD and IPR Pipeline Alignment Alternatives Analysis.

There were no construction progress or project photographs taken during this reporting period.

4.1.2 Q2 Pre-Construction Project Progress – October 1, 2023 through December 31, 2023

- Carollo Engineers continued preparation of the Report of Wastewater Discharge (ROWD) Application and Engineers Report for the IPR Program.
- City Staff and the Recycled Water Program Team participated in a meeting with the Division of Drinking Water to review the results of the UV/AOP Challenge Test.
- City Staff and the Recycled Water Program Team participated in a tour of the Orange County Water District's Groundwater Replenishment System treatment facility and injection wellfield.
- City Staff and the Recycled Water Program Team coordinated with the project archeologist and biologist to develop recommendations for modifying the Area of Potential Effect for the WRF Program.
- City Staff and the Recycled Water Program Team prepared Requests for Proposals (RFPs) for the procurement of engineering and hydrogeologic design services for the injection wells and recycled water pipelines.

- City Staff and the Recycled Water Program Team coordinated with the WRF Program Funding/Financing Agencies regarding the Recycled Water Program schedule and other requirements.
- On October 18, 2023, the Phase 1 Recycled Water Program Implementation Strategy and the Recycled Water Program Implementation Consultant Contracts were presented to the Public Works Advisory Board (PWAB).
- On November 14th, 2023, the Phase 1 Recycled Water Program Implementation Strategy and the Recycled Water Program Implementation Consultant Contracts was presented to a Joint City Council and PWAB Meeting. The City Council approved moving forward with the implementation of Phase 1 of the Recycled Water Program and approval of the Recycled Water Program Implementation Consultant Contracts, conditional on drafting a letter to the Clean Water State Revolving Fund (CWSRF) representatives requesting formal documentation of the minimum recycled water program implementation requirements.
- City Staff and the WRF Subcommittee developed and submitted the letter requesting formal documentation of the minimum recycled water program implementation requirements to the CWSRF representatives.

There were no construction progress or project photographs taken during this reporting period.

4.1.3 Q3 Pre-Construction Project Progress – January 1, 2024 through March 31, 2024

- On January 25th, 2024 the City and the Recycled Water Program Team submitted the remaining requested documents required to begin development of the Bureau of Reclamation (Reclamation) Title XVI Grant Agreement.
 - During Q3, the City and the Recycled Water Program Team coordinated with Reclamation to modify submitted materials and begin preparation of the Title XVI Grant Agreement.
- On January 26th, 2024 City Staff and the Recycled Water Program Team participated in a tour of the Pure Water Monterey treatment facility and injection wellfield.
- On February 27th, 2024 the City received a response to the letter submitted to the Clean Water State Revolving Fund (CWSRF) representatives requesting formal documentation of the minimum recycled water program implementation requirements.
 - On March 12th, 2024 City Staff and the Recycled Water Program Team presented the response letter from the SWRCB regarding the request for formal documentation of the minimum recycled water program implementation requirements to City Council.
 - On March 15th, 2024 City Staff and the Recycled Water Program Team released the RFP for the procurement of engineering design services for the injection wells and recycled water pipelines.
 - During Q3, City Staff and the Recycled Water Program Team continued preparation of the RFP for the procurement of hydrogeologic design services for the injection wells and recycled water pipelines.
- On February 29th, 2024 City Staff and the Recycled Water Program Team held a Risk Assessment Workshop to identify and develop mitigation strategies for potential risks to the implementation of the Recycled Water Program.
- On March 18th, 2024 City Staff and the Recycled Water Program Team submitted a letter to the EPA requesting to expand the Area of Potential Effect (APE) for the EPA’s Programmatic Agreement with the State Historic Preservation Officer (SHPO) for Phase 3 of the WRF Project.
- During Q3, City Staff and the Recycled Water Program Team continued preparation of the Report of Wastewater Discharge (ROWD) Application and Engineers Report for the Indirect Potable Reuse (IPR) Recycled Water Program.

- On March 8th, 2024 City Staff and the Recycled Water Program Team met with representatives from the Regional Water Quality Control Board and the Division of Drinking Water to provide a status update on and ask questions regarding the ROWD Application and Engineers Report.

There were no construction progress or project photographs taken during this reporting period.

4.1.4 Q4 Pre-Construction Project Progress – April 1, 2024 through June 30, 2024

- On April 29, 2024 City staff and the Recycled Water Program Team toured the Goleta Water District's Injection Well Facilities.
- On May 6, 2024 City staff and the Recycled Water Program Team released a request for proposals (RFP) for the procurement of hydrogeologic support services for injection well design and construction support:
 - On May 14, 2024, City staff and the Recycled Water Program Team held a pre-proposal meeting for the hydrogeologic support services for injection well design and construction support RFP.
- On April 11, 2024, City staff and the Recycled Water Program team coordinated with the United States Environmental Protection Agency (USEPA) to request a five-year extension of the Programmatic Agreement between the USEPA and the SHPO.
- On May 1, 2024, City staff and the Recycled Water Program Team received notification from the USEPA that the requested expansion of the Area of Potential Effect for the Programmatic Agreement was approved by the SHPO for Phase 3 of the WRF Project.
- On May 23, 2024, the City submitted a Nitrate Blending Operations, Maintenance, and Monitoring Plan (OMMP) and Drinking Water System permit amendment application to the DDW for approval consideration. The Nitrate Blending OMMP and Drinking Water System permit amendment are needed to allow for the completion of the interim tracer study test:
 - On June 18, 2024, the City received notification from DDW that the Nitrate Blending OMMP and Drinking Water System permit amendment were approved.
- On June 11, 2024, the City Council selected the Cannon Corporation for engineering design services for the injection wells and recycled water pipelines and approved contract amendments for Program Management, Permitting Support, and Hydrogeologic Support Services.
- Between June 12, 2024 and June 21, 2024, City staff and the Recycled Water Program Team oversaw the completion of archeological and hydrogeologic coring/testing at the proposed injection well locations and archeological testing along the proposed pipeline alignments.
- On June 18, 2024, the updated intermediate tracer test plan was completed and submitted to the Central Coast RWQCB as part of the renewal of the City's Pilot Aquifer Storage and Recovery Permit.
- During Q2, City staff and the Recycled Water Program Team coordinated with the Bureau of Reclamation to modify grant agreement materials and continue preparation of the Title XVI Grant Agreement.
- During Q2, City staff and the Recycled Water Program Team continued preparation of the Report of Waste Discharge Application and Engineers Report for the Recycled Water Program permitting.

Please see the photographs taken during the archeological/hydrogeological testing for the injection well locations and pipeline alignments



Well Site Coring – Sonic Boring #8 (SB #8)



Well Site after Coring and Filling (SB #7)



Well Site Cores (Deep Sonic Cores)



Well Site Cores (Deep Sonic Cores)



Pipeline Alignment Cores (Shallow Cores)



Pipeline Alignment Cores (Shallow Cores)

4.2 Project Schedule

The “SRF Requirements Delay” refers to a project delay associated with the City Council request to obtain a letter confirming the minimum recycled water implementation requirements from the SWRCB. On November 14th, 2024, the Phase 1 Recycled Water Program Implementation Strategy and the Recycled Water Program Implementation Consultant Contracts was presented to a Joint City Council and PWAB Meeting. The City Council approved moving forward with the implementation of Phase 1 of the Recycled Water Program and approval of the Recycled Water Program Implementation Consultant Contracts, conditional on drafting a letter to the Clean Water State Revolving Fund (CWSRF) representatives requesting formal documentation of the minimum recycled water program implementation requirements. This letter was sent by City staff on November 27th, 2023. On February 27th, 2024 the City received a response to the letter submitted to the Clean Water State Revolving Fund (CWSRF) representatives requesting formal documentation of the minimum recycled water program implementation requirements. During the intervening time, City Staff could not proceed with releasing the Request for Proposals for the Recycled Water Facilities Design and Engineering Support During Construction Services.

Appendix A

ABBREVIATIONS

Appendix A

ABBREVIATIONS

Anvil	Anvil Builders
AOP	advanced oxidation process
BODR	Basis of Design Report
Carollo	Carollo Engineers, Inc.
CHG	Cleath-Harris Geologists
City	City of Morro Bay
ConfluenceES	Confluence Engineering Solutions
CWSRF	Clean Water State Revolving Fund
DDW	California State Water Resources Control Board, Division of Drinking Water
DWR	Department of Water Resources
EPA	Environmental Protection Agency
FBV	Filanc Black & Veatch
FY	fiscal year
FY 22/23	2022-23 fiscal year
GSI	GSI Water Solutions, Inc.
IPR	indirect potable reuse
KMA	Kevin Merk Associates
NPDES	National Pollutant Discharge Elimination System
Q4	fourth quarter
RFP	Request for Proposal
RWF	Recycled Water Facilities
SWRCB	State Water Resources Control Board
TSO	Time Schedule Order
UV	ultraviolet
WIFIA	Water Infrastructure Finance and Innovation Act
WRC	Water Resources Center
WRF	Water Reclamation Facility

Appendix B

FISCAL YEAR EXPENDITURES BY BUDGET CODE

Appendix B

FISCAL YEAR EXPENDITURES BY BUDGET CODE

City Budget Code	Fund Name	Total FY 23/24 Expenditures	Vendor Name	Project Component
4910	Employer Paid Benefits			
4911	Pension Normal Cost			
4999	Labor Costs Applied			
Total Personnel Services (Above)		\$41,866.90	City of Morro Bay	General Project
6105	Consulting Services	\$4,335.00	Bartle Wells	General Project
6161	Licenses and Permits	\$13,904.00	State Water Resources Control Board	General Project
6162	Mandated Fees, Inspections	\$12,200.00	U.S. EPA	General Project
7116	Legal Services – General	\$146,231.20	Aleshire and Wynder	General Project
Total Services (Above)		\$176,670.20	Various	General Project
6104	Engineering Services	\$10,140.00	Frisch Engineering	Conveyance
6104	Engineering Services	\$603,220.61	BSK Analytical, Confluence, Pace Analytical, GSI, Water Works, Rincon, Cleath-Harris, SWRCB, Kevin Merk, Cannon, Far Western	RWF
6196	Program Management & DB Procurement	\$900,322.08	Carollo Engineers	General Project
7105	Planning & Permitting	\$67,121.28	Far Western, Cogstone	Conveyance
7105	Planning & Permitting	\$20,396.12	Far Western, Cogstone	RWF
7106	Design Phase – Injection Wells & Recycled Water Pipeline	\$3,808.27	Far Western	RWF
7114	RWF Design, ESDC, Permitting	\$74,942.07	Water Works Engineers	Conveyance
7114	RWF Design, ESDC, Permitting	\$15,402.18	Water Works Engineers, Cannon	RWF
Total Project Soft Costs		\$1,695,352.61	Various	Conveyance, RWF, General Project

City Budget Code	Fund Name	Total FY 23/24 Expenditures	Vendor Name	Project Component
5116	Wastewater Collection System Supplies	\$15,125.97	Aerzen	WRC
5119	Miscellaneous Operating Supplies	\$6,216.72	HD Supply	WRC
6106	Contractual Services	\$40,629.34	Cannon	WRC
6106	Contractual Services	\$880,000.00	Anvil Builders	Conveyance
7107	WRC – On-Site Imprv – Build	\$2,763,199.36	Filanc Black and Veatch (Overland)	WRC
Total Construction Costs		\$3,705,171.39	Various	WRC, Conveyance
Total Fiscal Year 2023-2024 Expenditures		\$5,619,061.10		

Notes:

- (1) City Budget Codes are from the latest Accounts Payable Report run on August 6, 2024.
- (2) Total quarterly expenditures shown only include invoices paid in or accrued back to this fiscal year and are derived from a cash basis of accounting using the Accounts Payable reports provided by the City. Total expenditures shown may differ from City fiscal year-end budget performance reports that are based on a modified accrual basis of accounting, which reallocates current quarter expenditures for services rendered in prior fiscal year back to the prior fiscal year.

Appendix C

WRF PROGRAM FUNDING REQUESTS AND REIMBURSEMENTS STATUS SUMMARY

Appendix C

WRF PROGRAM FUNDING REQUESTS AND REIMBURSEMENTS STATUS SUMMARY

Agency	Description	No.	Date Submitted	Requested Amount	Approved Amount	Received
SWRCB	CWSRF Planning Loan	1	12/18/2022	\$289,595	\$217,441	Yes
SWRCB	CWSRF Planning Loan	2	11/19/2022	\$6,431,295	\$5,312,748	Yes
SWRCB	CWSRF Planning Loan	3	10/20/2022	\$3,910,211	\$2,415,669	Yes
SWRCB	CWSRF Planning Loan	4	10/21/2022	\$930,385	\$484,617	Yes
SWRCB	CWSRF Planning Loan	5	4/22/2022	\$0 (see 5A)	Not Applicable	Not Applicable
SWRCB	CWSRF Planning Loan	5A	9/26/2022	\$0	Not Applicable	Not Applicable
SWRCB	CWSRF Planning Loan	5B	11/22/2022	\$1,982,581	\$1,869,525	Yes
CWSRF Planning Loan Subtotal				\$13,544,067	\$10,300,000	
SWRCB	CWSRF Construction Loan	1	9/21/2022	\$11,185,433	\$11,185,433	Yes
SWRCB	CWSRF Construction Loan	2	11/21/2022	\$10,886,581	\$10,886,581	Yes
SWRCB	CWSRF Construction Loan	3	12/21/2022	\$5,463,514	\$5,463,514	Yes
SWRCB	CWSRF Construction Loan	4	2/22/2022	\$5,943,019	\$5,943,019	Yes
SWRCB	CWSRF Construction Loan	5	3/22/2022	\$6,095,373	\$6,095,373	Yes
SWRCB	CWSRF Construction Loan	6	5/22/2022	\$3,237,138	\$3,237,138	Yes
SWRCB	CWSRF Construction Loan	7	6/22/2022	\$2,145,403	\$2,145,403	Yes
SWRCB	CWSRF Construction Loan	8	7/22/2022	\$4,245,018	\$4,245,018	Yes
SWRCB	CWSRF Construction Loan	9	8/22/2022	\$3,896,973	\$3,896,973	Yes
SWRCB	CWSRF Construction Loan	10	9/30/2022	\$2,360,768	\$2,360,768	Yes
SWRCB	CWSRF Construction Loan	11	12/5/2022	\$2,744,578	\$2,744,578	Yes
SWRCB	CWSRF Construction Loan	12	2/2/2023	\$1,791,012	\$1,791,012	Yes
SWRCB	CWSRF Construction Loan	13	3/28/2023	\$1,572,840	\$1,572,840	Yes
SWRCB	CWSRF Construction Loan	14	7/7/2023	\$4,170,989	\$3,343,199	Yes
CWSRF Construction Loan Subtotal				\$65,738,638	\$64,910,849	
EPA	WIFIA Loan	1	5/20/2022	\$1,100,944	\$1,100,944	Yes
EPA	WIFIA Loan	2	6/20/2022	\$61,014	\$50,486	Yes
EPA	WIFIA Loan	3	7/20/2022	\$3,489,409	\$3,489,409	Yes
EPA	WIFIA Loan	4	7/20/2022	\$2,461,121	\$2,461,121	Yes
EPA	WIFIA Loan	5	8/20/2022	\$142,863	\$142,863	Yes
EPA	WIFIA Loan	6	10/20/2022	\$1,635,106	\$1,635,106	Yes
EPA	WIFIA Loan	7	12/20/2022	\$3,008,572	\$3,008,572	Yes
EPA	WIFIA Loan	8	12/20/2022	\$3,671,499	\$3,671,499	Yes
EPA	WIFIA Loan	9	1/21/2022	\$5,553,851	\$5,553,851	Yes
EPA	WIFIA Loan	10	3/21/2022	\$2,440,399	\$2,440,399	Yes

Agency	Description	No.	Date Submitted	Requested Amount	Approved Amount	Received
EPA	WIFIA Loan	11	4/21/2022	\$1,621,783	\$1,621,783	Yes
EPA	WIFIA Loan	12	5/21/2022	\$2,988,342	\$2,988,342	Yes
EPA	WIFIA Loan	13	6/21/2022	\$3,544,987	\$3,544,987	Yes
EPA	WIFIA Loan	14	7/21/2022	\$2,692,977	\$2,692,977	Yes
EPA	WIFIA Loan	15	8/21/2022	\$1,328,552	\$1,328,552	Yes
EPA	WIFIA Loan	16	9/21/2022	\$488,601	\$488,601	Yes
EPA	WIFIA Loan	17	10/21/2022	\$321,117	\$321,117	Yes
EPA	WIFIA Loan	18	11/21/2022	\$346,279	\$346,279	Yes
EPA	WIFIA Loan	19	12/21/2022	\$1,005,341	\$1,005,341	Yes
EPA	WIFIA Loan	20	1/22/2022	\$337,646	\$337,646	Yes
EPA	WIFIA Loan	21	3/22/2022	\$956,562	\$956,562	Yes
EPA	WIFIA Loan	22	4/22/2022	\$395,308	\$395,338	Yes
EPA	WIFIA Loan	23	5/22/2022	\$1,315,288	\$1,315,288	Yes
EPA	WIFIA Loan	24	6/30/2022	\$155,599	\$155,599	Yes
EPA	WIFIA Loan	25	7/28/2022	\$169,286	\$169,286	Yes
EPA	WIFIA Loan	26	8/22/2022	\$723,244	\$723,244	Yes
EPA	WIFIA Loan	27	9/30/2022	\$653,121	\$653,121	Yes
EPA	WIFIA Loan	28	10/26/2022	\$968,147	\$968,147	Yes
EPA	WIFIA Loan	29	12/20/2022	\$433,862	\$433,862	Yes
EPA	WIFIA Loan	30	2/1/2023	\$262,959	\$262,959	Yes
EPA	WIFIA Loan	31	4/25/2023	\$721,433	\$721,433	Yes
EPA	WIFIA Loan	32	6/28/2023	\$609,260	\$609,260	Yes
EPA	WIFIA Loan	33	8/30/2023	\$665,181	\$665,181	Yes
WIFIA Loan Subtotal				\$46,269,655	\$46,259,157	
Total				\$125,552,360	\$121,470,006	

Appendix D

PROGRAM MILESTONES

Appendix D

PROGRAM MILESTONES

Milestone	Planned Completion Date
General Project	
Compliance with the TSO	2/23/2023
WIFIA Loan Secured	3/9/2020
SRF Loan Secured	7/31/2021
WRC	
Begin Design	11/5/2018
Construction Notice to Proceed	3/20/2020
Plant Seeding	10/4/2022
Substantial Completion	1/15/2023
Final Completion	3/14/2024
Conveyance Facilities	
Deliver 100 Percent Design	6/15/2020
Bid Advertisement	6/16/2020
Award Construction Contract	11/10/2020
Construction Notice to Proceed	12/14/2020
Substantial Completion	4/28/2023
Final Completion	3/26/2024
RWF	
Select Preferred Injection Area	6/17/2020
Pilot Injection Well – Complete	10/1/2022
Basis of Design of Report – Complete	1/31/2023
Engineering Design – Begin	3/15/2024
Construction Notice to Proceed	9/3/2025
Substantial Completion	7/1/2026
Final Completion	9/30/2026

Appendix E

FBV AMENDMENT DETAILS

No.	Item	Approved Amount (\$)	Cal Days	Amendment No.	Description
1	New Sodium Hypochlorite Feed for Plant Water	78,576	0	1	Add a sodium hypochlorite (disinfection) chem feed pump, add sodium hypochlorite double contained piping from the Chemical Facility to the Recycled Water pumps. Additional electrical and controls for the new sodium hypochlorite pump. The added pump is needed for redundancy.
2	Change Architecture of Operations Building	(21,623)	0	1	The City requested to change the Operations Building exterior architecture back to a basic style, to delete the clerestory but to include cupolas and solatubes. The City requested the change to reduce project costs.
4	Headworks Odor Control	18,422	0	1	Adding foul air ducting from the Fine Screens and SAFE Diversion Box to the Headworks Odor Control Biofilter. Cost also includes adding a cover to the SAFE Diversion Box. The ducting and cover were adding to reduce foul air emissions.
5	Remove Canopy and Monorail at MBR	(185,434)	0	1	The MBR tank was originally design with a canopy cover and monorail/crane hoist. The monorail and crane hoist were originally included to move MBR cassettes in and out of the tank for cleaning and maintenance. The City requested the change to reduce project costs. In the future the City will use a crane or boom truck to remove MBR cassettes when necessary.
9	Consolidate Chemical Facilities	218,978	0	1	The original design provided chemical feed pumps and storage tanks at various locations where needed on site. The City requested to centralize all chemical storage tanks and feed equipment to one facility. Work includes a larger Chemical Facility structure, and additional chemical ductbanks and double containment piping.
10	Modify Chemical Piping	(15,856)	0	1	Revise underground chemical piping, to change double containment carrier piping from rigid pipe to flexible ducting. The City accepted this change to reduce project costs.
15	Remove Solids Dumpster Lid	14,543	0	1	At the Solids Handling Area, delete the Solids Dumpster Lid and delete the Hypalon Splash Guards. Add a canopy / awning structure over the dumpster area by extending the Solids handling Area canopy. The City prefers the open-air solids dumpster while providing the canopy to protect dewatered solids from rain and atmospheric moisture.
16	Modify Outfall Pump Station	367,632	0	3	Increase the guaranteed pump station capacity to 8.14 MGD. Change the original design of 3 medium sized VFD controlled pumps, to a modified configuration using 2 smaller pumps and 2 larger pumps, all with VFDs. Also add and modify pump station manifold piping and valving as necessary. The City requested the change to ensure adequate future flow capacity and maximize pumping efficiency.
17	Add SAFE Equalization Tank	504,116	0	1	Add SAFE Settle Tank (water bearing concrete structure) upstream of the SAFE system. The SAFE Settle Tank is added to the Sludge Holding Tank concrete structure. The new SAFE Settle Tank will either overflow to the SAFE System, or be pumped back to the SAFE Diversion Box using Solids Handling Pumps. Various segments of SAFE System diversion piping are upsized as required.
18	Instrumentation and Control Changes	75,266	0	1	The City prepared and issued a SCADA Master Plan for the WRF program. In January 2019, City staff and the DB team met and agreed on multiple technical items to coordinate between the City's SCADA Master Plan requirements and the DB Agreement scope. The PCO #18 proposal document includes a 6 page table of the multiple hardware and software changes.
19	Reduce Size of the Product Water Tank	(129,681)	0	3	The original DB Agreement included a 500,000 gallon bolted steel glass lined Product Water Tank. The City requested to decrease volume of Tank to 200,000 gallons. This was done to save project costs while also maintaining a suitable Product Water storage capacity on site.
21	Revise Maintenance Building Layout and Size	516,583	0	1	The Maintenance Building footprint is expanded from 50'x70' to 60'x90' and a second vehicle sized roll-up door is added. The change order also includes revised site grading and eliminating a step in the building foundation slab, such that the new layout providing a larger, single level, vehicle accessible, shop area.
22	Influent Piping and Metering	411,766	0	1	The original design included a single 18" influent raw sewage pipeline from Teresa Rd to the new Headworks and an 18" influent flow meter at the Headworks. The City requested to change the design to parallel 16" and 12" HDPE influent pipelines, each pipeline with a separate flow meter at the Headworks. The City requested the change to add redundancy to the influent piping system.

No.	Item	Approved Amount (\$)	Cal Days	Amendment No.	Description
23	Outdoor-Rated Blowers (BNR)	(58,210)	0	1	Replace the specified Turbo Blowers with Outdoor Rated Dry Screw Positive Displacement Blowers. The change order includes various revisions to blower controls, valving, and Aeration Air piping. The change was made to reduce project costs while still providing a suitable capacity of Aeration Air for the biological facility process.
24	Remove Bypass of Coarse Screens	(37,137)	0	1	Delete the Coarse Screens bypass line, including both above grade and below grade 16" piping, valving, and fittings at the Headworks. The City requested the change to reduce project costs, as the bypass line was deemed not necessary.
26	SAFE Diversion Box Additions	58,304	0	1	Add a removable FRP cover over the SAFE Diversion Box. The new cover includes multiple FRP panel sections that are removable by hand and structurally rated to support foot traffic. The change also adds an access ladder and handrail to the top of the Diversion Box. The changes were requested by the City to improve access to the Diversion Box.
28	Size Dewatering as a Building in the Future	30,983	0	1	Expand the Solids Handling Area concrete foundation slab and canopy to 36'x45'. The change also includes reconfiguring the dewatering belt press, pumps, piping, etc. This change will allow walls to be added around the equipment in the future. The City requested this change in case excessive foul air is emitted in the future and odor control measure become necessary.
30	Match Blowers at SHT, BNR, and MBR System	17,426	0	4	There are 3 set of air blowers on the project: 2 each for MBR Air Scour, 3 each for BNR Aeration, and 2 each for Sludge Holding Tank mixing. The 2 each MBR Air Scour Blowers are Aerzen Blowers. The City requested that the 3 each BNR Aeration Blowers and 2 each Sludge Holding Tank Blowers also be supplied by Aerzen. The City requested this change for uniformity of equipment providers.
31	Coarse Screens and Grit Basins Stairs	52,870	0	1	The original design included various metal ladders to access the Headworks Coarse Screen and Grit Tank platform skids. This change deletes the ladders and adds 2 each 4 ft tall stair sets to the Course Screens and adds 2 each 8 ft tall stair sets to the Grit Tank area. This change also extends the Headworks foundation slab as required to provide foundations and landings for the added stairs.
32	Sulfuric Acid System	315,652	0	3	The City requested to add Sulfuric Acid feed pumps and a storage tank at the Chemical Facility. This change includes increasing the size of the Chemical Facility structure, adding double containment piping to both the RO Feed Tanks and the RO/UV Building, and adding all necessary electrical and controls. The City deemed that Sulfuric Acid addition is necessary for pH control/neutralization.
37	PLC/SCADA Software Uniformity	201,577	0	3	This PCO includes the cost to change PLC hardware and SCADA software from the standard offerings of the MBR, RO, and Headworks manufacturers to the City requested Allen Bradley and Wonderware products. This PCO applies to only those three equipment items and a separate PCO will be generated if a similar change is required for future procurements. The City requested this uniformity.
38	IPR Product Water Tank Bypass	(26,087)	0	1	Delete the Product Water Tank bypass line, including both above grade and below grade 8" piping, valving, and fittings at the Product Water Area. The City requested the change to reduce project costs, as the bypass line was deemed not necessary.
39	NTP Delay	1,220,532	0	3	This PCO includes extended general conditions costs due to the delay in receiving construction NTP from April 29, 2019 to March 20, 2020. The amount for the period April 29, 2019 to October 23, 2019 was in dispute and a reduction is provided to reflect the results of a negotiation.
40	Headworks Valve Automation	249,946	0	3	The change adds motor operated valving and controls to the Headworks treatment trains. This allows for automated shifting of flows from one treatment train to the other, as may be needed due to equipment malfunction or other alarm conditions, especially during periods when no operators are on site. The change includes adding 8 each motor operated valves, plus electrical and controls.
41	Perimeter Barbed Wire Fence	79,935	8	3	City requested that FBV install a 5-strand barbed wire fence around the entire 27-acre project/property boundary, and along the Temporary Construction Easement (TCE) on the eastern boundary of site. The eastern boundary TCE fence will be relocated to the actual project/property boundary at project completion.
42	UV/AOP System Modifications	(33,481)	0	3	The City requested to delete the Standby UV Reactor from the scope of work to reduce project costs. The change includes FBV added costs for: UV system investigation, technical memoranda, development of alternatives, and resulting design revisions for associated mechanical, electrical, and controls.

No.	Item	Approved Amount (\$)	Cal Days	Amendment No.	Description
44	Tank Access Improvements	210,327	0	3	This Change adds staircases to replace ladders throughout the site for improved access to treatment process basins. The change adds stairs, catwalks, and handrails at the BNR tanks, adds stair and landings at the SHT, add stairs and a grating platform at the MBR tank, and adds stairs, catwalk, and handrails at the SAFE system.
45	Maint. Building Ceiling and Auto Roll-Up Door	21,009	0	3	The City requested to add a motor actuator on one of the 14'X14' roll-up door at the Maintenance Building. This change includes the required added electrical and controls.
46	Curbed Washdown Areas	76,250	0	3	This change adds containment curbs, sloped slabs, floor drains, and drainage piping to sewer for various wastewater washdown areas. The change adds curbed washdown areas for the MBR cassette maintenance area, the solids/sludge dewatering area, and the Headworks Coarse Screen and Grit Tank area. The City requested the curbed washdown areas to better contain sewage spills.
47	Changes to Building Furnishings and Equipment	85,194	0	3	This Change adds office furnishings and appliances for the Operations and Maintenance Buildings, including desks, chairs, tables, shelves, cabinets, control room console, flat-screen monitors, kitchen and laboratory appliances, lockers, and maintenance building storage racks. The items were discussed and requested by the City during design meetings with the DB team Architect.
50	Water/Sewer Supply Shed Revisions	13,142	0	3	The original design includes a Water and Collections Storage Shed, with two equal sized rooms each with an exterior double-wide pedestrian door. This change deletes the double doors and adds 10 ft wide roll-up doors and single pedestrian doors for each room.
52	Analyzer Relocation and Enclosures	76,555	0	3	Relocate analyzers at Outfall/IPR Pump Station to indoors at the RO/UV Building, including adding 120' of sample piping between the sample point and building. Relocate analyzers at Dechlorination Facility to indoors at the Water/Collections Storage Shed, including adding 70' of sample piping between the sample point and building, and adding 70' of drainage piping to sewer.
55	Notice of Dispute – PG&E Temporary Power	13,163	0	3	This PCO addresses the cost paid to PG&E for temporary power service. It has been a disputed item and negotiation has led to an agreement to split the cost 50/50.
56	Impacts of Water Quality Changes	282,420	0	3	In September 2019, the City provided updated influent Water Quality data to use as the basis of design. Multiple parameters were significantly different than listed in the DB Agreement. The revised Water Quality data impacted the RO equipment design. The added costs are for H2O Innovations (RO manufacturer) as well as for electrical and control changes by Electricraft.
57	Soil Lateral Earth Pressure	116,329	0	3	This change adds foundation sub-drains around below grade water bearing concrete structures as recommended by FBV and the Geotechnical Engineer. This change adds Miradrain Panels and 4" PVC drain piping around the perimeter of the BNR basin and Sludge Holding Tanks, to relieve lateral soil pressure on the concrete structures.
58	Permanent Exclusion Fencing	855,991	0	3	As required by environmental regulatory agencies, a concrete barrier wall for wildlife exclusion is added along the entire Eastern boundary of the site from Teresa Rd to the northern most tip of the site. The concrete barrier wall shall extend 24 inches above grade and 36 inches below grade, and include a nominal 6-inch top lip to serve as a climbing barrier.
59	Increased Escalation Costs	1,232,677	0	3	This PCO includes escalation costs due to the delay in receiving construction NTP from October 23, 2019 to March 20, 2020.
61	Potential Change Order (PCO) Design Impacts	158,172	0	3	This PCO is in response to FBV's claim for engineering redesign costs from changes requested by the City but subsequently reversed due to the cost being too high or otherwise excessive. The PCO also addresses FBV's claim for inefficiencies resulting from "changes in direction throughout the design development process".
62	Conduit Alternative Design	(268,400)	0	3	This change removed the original DB Agreement, Exhibit B, requirement to use PVC coated galvanized rigid steel conduit systems in all exterior and/or process areas on site. FBV proposed to use galvanized rigid steel conduit systems (without PVC coating) in all project locations as a value engineering suggestion. The City accepted the proposal in an attempt to reduce project costs.

No.	Item	Approved Amount (\$)	Cal Days	Amendment No.	Description
64	Reduce Performance Period	(35,450)	0	3	The DB Agreement requires 6-months of FBV support during the Performance Test Period. The City requested to delete this requirement as not necessary. Note FBV remains responsible for the 12-month warranty against equipment and/or system malfunctions. The credit amount is taken directly from FBV's original bid proposal document.
65	Davis Bacon Wage Increases	63,937	0	2	The Contract amount is increased to compensate for the required implementation of CA Wage Determination dated 10/5/2018. FBV's original bid proposal document was based on CA Wage Determination dated 1/5/18
66	Caltrans Intersection Improvements	(21,893)	0	3	Delete scope of work to extend intersection at Teresa Road and South Bay Blvd for the new WRF Access Road. Adjust centerline of the WRF Access Road to be offset from the centerline of South Bay Blvd.
67	BNR System Modifications	742,405	0	3	This change was requested by City to increase Aeration Air systems as required for full nitrification in the biological process. The costs include upsizing 3 each aeration blowers, stainless steel aeration piping, air meters, air valves, and adding aeration diffusers in the BNR basins. The change also adds Ammonium Sulfate pumps, tank, piping, and increases the size of the Chemical Facility.
68	SAFE Equalization Settle Tank Drain Piping	62,215	0	3	This change is requested by the City to provide a new pipeline to drain the SAFE Settle Tank. This pipeline will tie in to the existing dewatering feed pumps and will allow draining the tank back to the SAFE Diversion Box. The work includes adding 80 lf of 6" piping and adding 2 each 6" manual valves.
69	Third Party Testing and Inspection	100,000	0	3	The responsibility for 3rd party testing and inspection costs were in dispute for several months prior to construction. In April 2020 the City and FBV agreed that the cost of these services would be split 50/50 between the parties, up to a cap of \$200K. The agreement included the provision that if additional services are required above \$200K, it would be paid by the City.
71	CDFW Restrictions (Direct Costs & Inefficiencies)	254,443	0	4	The construction NTP on 3-20-2020 included restrictions from working in the designated spoils disposal area on site. The restrictions by CDFW were due to an erosional feature and were not resolved until 7-14-2020. As a result of the restrictions, FBV was required to stockpile spoils outside the disposal area, and then haul and grade the material a second time after the restrictions was lifted.
72	Owner Trailer Utility Hook Ups	19,593	0	4	This change provides utility connections to the Owner/Carollo field office trailer at the WRF. The work includes grading the trailer site, installing a temporary potable water connection, connecting temporary electrical, and providing electrical power through the project duration. The work also includes installing a temporary USPS jobsite mailbox.
73	Main Gates in Perimeter Fence	27,031	0	4	This change was requested by the City to add 2 pedestrian gates in the WRF perimeter fence, one north of the Operations Building and one at the northern most tip of site. Along with the pedestrian gate north of the Operation Building, also provide a 4' wide set of concrete stairs and a 4' wide sidewalk between paved areas.
74	Parking Canopy Electrical Receptacles	42,346	0	4	This change adds 7 outdoor rated duplex 120VAC electrical outlets on canopy poles around the Vehicle/Equipment Storage Canopy, and the WRF Parking Canopy. The work includes a new 480V circuit from the RO Building Electrical Room, a new 5KVA transformer, and all required underground and exposed power conduits, junction boxes, and outlet receptacles.
75	Security Windows at Admin Building	11,079	0	4	This change was requested by the City to add a security window in the lobby of the new Operations Building to separate City staff from members of the public in the lobby (similar to City Hall).
76	Additional Sodium Bisulfite Pump	58,243	0	4	This change was requested by the City to provide a redundant (second) Sodium Bisulfite feed pump at the Chemical Facility, including all associated mechanical work, piping, electrical and controls. This change also provides heated tote blankets for the Sodium Bisulfite storage totes to control temperature during cold weather. An electrical outlet is also added for the heated tote blankets.

No.	Item	Approved Amount (\$)	Cal Days	Amendment No.	Description
77	Covid-19 Impacts	125,000	0	6	The DB Agreement stipulates that an "epidemic" or "quarantine restriction" is a compensable Force Majeure event. FBV originally submitted costs in the amount of \$152K for COVID-19 impacts based on added janitorial service, added COVID protective supplies, added Safety Officer time, added costs to send infected workers home for quarantine, and loss of efficiency (1 hr. per worker per day from 3/20/20 to 6/1/20 and 10 min. per worker per day from 6/1/20 to 3/20/21. The City was able to negotiate this cost down to \$125K based on a reduction of the assumed inefficiencies and was able to gain FBV agreement that this costs is considered final (i.e., that any future infections would be based on individuals deciding not to be vaccinated rather than Force Majeure).
78	Soil Slip Differing Site Conditions	280,013	0	4	On May 5, 2020 an unidentified ancient landslide was discovered when mass grading the cut slope above the Operations Building. This is a differing subsurface condition per Section 3.10.2 of the Agreement. The costs represent the additional effort associated with remediating the landslide.
79	Water/Sewer Shed Revisions (Ref. PCO 50)	10,847	0	4	This item is a continuation of PCO 50. FBV claims that their previous quote did not include all costs associated.
82	PLC/SCADA Uniformity Complete (Ref. PCO 37)	108,887	0	4	This PCO includes the cost to change PLC hardware and SCADA software from the standard offerings of the Belt Press and Cloth Disk Filter (SAFE) manufacturers to the City requested Allen Bradley and Wonderware products. This PCO applies to only those equipment items. PCO #37 was similarly for other equipment manufacturers on the project.
84	Alternate Red Legged Frog Barrier (Ref. PCO 58)	(468,768)	0	5	Environmental agencies overseeing the project have allowed an alternate wildlife barrier along the Eastern boundary of site. The PCO 58 concrete barrier is only required from Teresa Rd to the facility gate (400'). The remaining 1700' of exclusionary barrier shall be 2 mm thick HDPE attached to 6' chain link fencing, 24" above grade, 36" below grade, with a rigid 4" FRP top lip climbing barrier.
86	Pothole Existing Water Valve in Teresa Road	5,189	0	4	The City requested that FBV pothole an existing City water line and shut off on Teresa Road. On the next day, the City requested FBV pothole the 8" branch line service to the WRF property. The work was on T&M.
87	Modify Conduit Design Scope (Ref. PCO 62)	272,822	0	5	This change provides PVC coated electrical conduit systems (conduits, boxes, accessories) for all wastewater and product water processing and washdown areas, including outdoor process areas and indoors at the RO/UV Building. PVC coated Galvanized Rigid Steel (GRS) conduits provide superior corrosion protection. This PCO essentially reverses previous PCO #62.
88	Dead-Front Control Panels	37,774	0	6	City staff requested that all control panels be dead-front type, wherein no controls are exposed, and that a solid front door is furnished (i.e. keyed or with padlock hasp). FBV has submitted costs in the amount of \$37K and the City is in agreement. This change is being implemented on the following system control panels: Kusters (Headworks), Suez (MBR), Aerzen (Blowers), Gierlich-Mitchell (Sanitary Lift Station), Charter Machine (Dewatering), and other minor panels as required.
90	24Vdc Digital Output Circuits	25,689	0	6	City staff requested that all control digital output circuits be 24vDC to match the 24vDC input signals as required by the DB Agreement. The City requested this to prevent potential signal interference. FBV had planned to use 120vAC digital outputs as the DB Agreement only stipulated the 24vDC signals on inputs (not outputs). This could potentially cause signal interferences and various control system disruptions. This item was disputed by the City as matching input and output signals is a design standard for some design firms (including Carollo). As part of negotiations the City elected to accept the proposed costs which include additional relays and power supply units in various Motor Control Centers (power distribution panels) for the 24Vdc PLC digital circuits being added.
91	Equipment Color (Tnemec 32GR Light Gray)	12,500	0	6	City staff requested that a standard color be established for all manufactured equipment, piping, etc., including for all field applied coatings. This is being implemented so that plant staff only need to maintain supply of one coating color, to simplify coating spot repairs during normal maintenance. The selected color is Tnemec 32R Light Gray or equal. FBV coordinated and made requests to each equipment supplier to change their standard or typical factory color to the Tnemec Light Gray or equal. Some supplier had costs impacts for the equipment color change.

No.	Item	Approved Amount (\$)	Cal Days	Amendment No.	Description
92	West Cut-Slope Soil Slip Reactivation (2021)	825,300	0	6	On January 28, 2021, the previous cut-slope landslide area reactivated during a major storm. The DB team has performed extensive site investigation, and develop preliminary remediation drawings, and submitted total costs in the amount of \$825,300 to address the known conditions. The remediation scope of work includes: removal and stockpiling of approximately 17,000 cy of loose material to the mapped slip plane, benching into competent native subgrade material, installing a subdrain system at each bench with drainage to surface, placement and compaction of \$17,000+ cy of engineered fill, surface contours to enhance precipitation run-off, concrete v-ditches to divert run-off from the areas, and the installation of two inclinometer for future monitoring by the City (monitoring not included).
93	NEMA 4X Electrical Enclosures	40,000	0	6	The City is requiring that all exterior electrical enclosures be NEMA 4X type. FBV submitted costs in the amount of \$97K to provide the NEMA 4X enclosures. The City does not agree with the contractual merits of this cost request. The City's contention is that the DB Agreement calls for all exterior and exposed electrical and control enclosures are to be NEMA 4X rated. FBV has argued that their intention, and the approved IFC design documents indicate reasonable alternatives to NEMA 4X. The City and FBV have agreed to the settlement amount noted herein and all applicable panels will be NEMA 4X rated.
94	Security System Revisions	25,659	0	6	The City requested the following improvements to the facility security system: add one exterior security camera to enhance coverage of the facility grounds (6 other cameras already in design), add door detectors and motion sensors at the RO Bldg, Storage Shed, Electrical Bldg (detectors and sensors at Ops Bldg and Maint Bldg are already in design). FBV submitted costs in the amount of \$25K and the City is agreeable to the proposed amount.
96	January 2021 Storm Event (1-26 thru 1-29)	40,195	7	6	FBV has submitted costs in the amount of \$40K for actual expenditures associated with the January 2021 major storm (8"+ of precipitation in 48 hours). The work included: actual labor, equipment, and materials to prepare for the storm, maintain the site during the storm while work was otherwise shutdown, and significant post storm efforts to clean and repair storm drain facilities, repair damaged embankments, and repair other erosional damage. The DB Agreement stipulates that "storms" are compensable Force Majeure events. As part of the settlement, City and FBV agree to amend the DB Agreement in that only non-compensable time extensions will be requested by FBV, and/or granted by the City, for any future weather related delay or impact.
97	Hydroseeding Soil & Coverage	25,932	0	8	FBV is reimbursed for additional expenditures related to providing hydroseeding and associated SWPPP and temporary irrigation for the soil slip area.
98	Materials Testing & Inspection (3rd Party)	143,120	0	7	Filanc-Black&Veath (FBV) is reimbursed for costs associated with 3rd party materials testing and special inspections. Under previous Amendment #3, FBV and the City agreed "... All 3rd party testing and inspection shall be provided by FBV up to \$200,000. Anything in excess of \$200,000 shall be borne by the City". This change amount is based on actual applicable testing and inspection costs above \$200,000.
100	Add Thin-Client Licenses and Work Station	17,229	0	7	FBV is reimbursed and compensated for extra work associated with additional Control System elements as follows: (1) Add a thin client workstation in the Maintenance Building, including thin client machine with keyboard and mouse, currently there is just a 42" monitor; and (2) Add two additional Wonderware Supervisory Client License w/ Historian Client and one (1) Dell Wyse 570 Thin Client w/ Windows Server.
101	COVID-19 Related Material Cost Escalation	48,744	0	7	FBV is reimbursed for extra costs associated with COVID-19 material cost escalations from EDI (air diffusers), Jensen Precast (vaults and manholes), Miltimore Tile (bathroom tile), Pacific Acoustics (ceiling tiles) and S&M Fire (fire protection systems). FBV is requesting this material cost escalation reimbursement beyond normal yearly inflation statistics based on terms included in Design-Build Agreement between the City and FBV.
102	City Requested SCADA Screen Revisions	60,000	0	7	FBV is reimbursed for extra work associated with the following City requested SCADA screen upgrades: City and FBV screen development subcontractor shall meet to agree on upgrades to the control screen features, then screen development subcontractor shall implement City preferences including screen readability, graphics use, color use, layout of equipment, use of navigational features, etc. This change item also includes costs for similar modifications to control screens provided by equipment vendors to match the new standard, and costs for two additional empty SCADA server racks in Operations Building for the City's future use.

No.	Item	Approved Amount (\$)	Cal Days	Amendment No.	Description
103	SRF Reimbursement Request Requirements	119,319	0	8	FBV is reimbursed for additional expenditures to assist the City with monthly billing information required for SRF funding, i.e. preparing a separate SRF formatted billing along with cost breakdown as per designated SRF categories, and provide all invoices. This task is performed on a monthly basis with FBV's payment application. Also includes costs to prepare an SRF formatted reconciliation breakdown for Pay Applications 1 to 31.
104	CMMS Software Scope and Implementation	71,567	0	9	Additional software and implementation included by NEXGEN beyond contract software requirements and to meet Exhibit B as redefined by the City.
105	WRF Monument Entry Sign Modifications	23,738	0	7	Entrance sign changes per Submittal 447.2.
106	Add Wash Rack Grease and Sand Interceptor	35,287	0	8	FBV is reimbursed for additional expenditures to provide and install a grease and sand interceptor facility at the WRF Wash Rack (vehicle wash bay) as requested by City staff to match normal developer requirements. This includes an additional underground multiple chamber vault and underground piping modifications.
107	Vactor Unloading Facility Revisions	38,880	0	8	FBV is reimbursed for additional expenditures to provide and install vactor unloading station modifications requested by City staff, including procure and install two (2) 10' section of concrete k-rail with stainless steel brackets, fabrication and installation of stainless steel sluice gate within vactor trench drain, and installation of concrete weir wall in the downstream sewer manhole.
108	Defer SEED PLANT Milestone and Commission	750,000	187	8	FBV is reimbursed for additional expenditures related to deferring the planned seed plant activity from early July 2022 to early October 2022 (3 months) including, revising sequencing and coordination expenses, deferred maintenance period expenses through October 4, 2022, commissioning inefficiencies and remobilization expenses, extended overhead and added site expenses through October 4, 2022, increased cost for Builders Risk insurance, and allowed mark-ups and fees.
109	Procurement of Teletruck for City Staff	74,562	0	7	FBV is reimbursed for the procurement of a JCB Teletruck from Central California Power for City staff use after the project. Details of the purchase are encompassed in the quote dated 2/7/22 from Central California Power (JCB Dealer) to the City of Morro Bay (Stock Order/Serial No:3405218 – Model 30G4x4 CON).
110	Chem Facility Fencing Revisions	24,767	0	7	FBV is reimbursed for extra work associated with modifying the chain link fencing enclosure at Chemical Facility as per the City's direction. The changes entails widening 6 each double swing gates that had already been installed at each chemical bay. The work required removal of existing fence posts, fencing, and anchors, patching of concrete, re-installation of gate posts, and procurement, delivery, and installation of new wider gate panels (12 total).
113	Modify H2O SCADA Screen for RO System	13,264	0	7	FBV is reimbursed for extra work associated with the following City requested SCADA screen upgrades: City and RO System supplier (H2O Innovations) agreed on upgrades to the screens, and H2O Innovations provided additional RO System SCADA screen re-work so that color use and terminologies match the other project SCADA screens.
114	RO/UV Building Insulation (Disputed)	32,025	0	7	FBV was directed on 3/3/22 to provide wall and ceiling insulation at Building 16, Storage Shed and Building 50, RO/UV Facility. The City's directive was based upon an ICC Inspection Report dated 10/22/21, from a Certified Deputy Inspector for Code compliance, stating "the R.O. Building has heating, but no insulation at this time, but per Title 24 should be insulated." FBV considered this outside the original GMP scope and submitted original costs of approximately \$109K on 5/2/22. On 7/28/22, FBV notified the City that the materials had been purchased and submitted a cost of \$32,025 for insulation materials. Because the City and FBV disagree on whether the installation is included in the GMP, the City has agreed to take possession of the insulation materials until the installation cost matter has been resolved. Materials are currently stored on site.
117	Water Main Connection on Teresa Road	37,503	0	7	FBV is reimbursed for extra work associated with providing and additional length of 18" water line piping, fittings, and gate valve for the new WRF City Water service connection. FBV had originally assumed their connection would be near the edge of pavement on Teresa Road. The final installation includes additional trenching, piping, fittings, and a valve extended to a connection point in the center of Teresa Road. This change also includes installing temporary piping and appurtenances to obtain construction water for the project site until the final connection is completed.

No.	Item	Approved Amount (\$)	Cal Days	Amendment No.	Description
118	Fine Screen LOTO Capability (Disputed)	26,905	0	7	FBV is reimbursed for work associated with changes to the fine screens control panel and power feed that will facilitate safe and proper Lockout/Tagout procedures as follows: (1) Relocate flow meter transmitter 180 degrees from current position adjacent to fine screens vendor LCP to make room for new enclosures/equipment. (2) Remove fine screens and conveyor starters, circuit breakers, load monitors, and control wiring. (3) Relocate starters, circuit breakers, load monitors, and control wiring to new individual enclosures for each fine screen and conveyor. (4) Install one 480V main fused disconnect switch for local shutdown of existing 480V circuit. (5) Install one 480V fused disconnect on each new starter enclosure for individual load shutdown. Three individual 480V circuits will tap off of existing 480V circuit per NEC tap rule. (6) Install new 120V circuit from electrical building electrical panel, through local plant control panel, and terminate in vendor LCP for new control power. (7) Remove vendor control power transformer and re-wire door switch. (8) Install galvanized anchor based stand and kickers to support new enclosures. (9) Modify vendor LCP shroud to install conduits for extending new 480V power conductors and 120V control wiring. (10). Energize and test.
119	Credit for Chemicals Supplied by City	(141,972)	0	7	The City is credited back and reimbursed for process facility chemicals to be purchased and supplied by the City rather than FBV as was otherwise required by the Design Build Agreement.
120	Seed Sludge Maintenance Period	133,784		9	The claim includes staff time and site overhead expenses (reasonable for 7 day delay period), plus costs to truck sewage from WWTP to WRC, and other expenses. It was City/Carollo decision to defer the WRC commissioning until 10/10/22, and Carollo/City agreed on October 6 that this change was compensable.
121	Credit for Alternate Frog Barrier (Alum. Top Lip)	(12,000)	0	8	The City is reimbursed for the cost reduction to provide install an aluminum anti-climbing lip at the top of the HDPE frog barrier rather than FRP, which will provide a longer lifespan (over 30 years compared to the 10 to 20 year estimate for FRP).
125	Total Chlorine Analyzer at Dechlor Facility	46,146	0	9	The cost proposal includes an Electricraft/TSI invoice and FBV field labor/equipment costs to install systems including new sample line. Cost appear reasonable based on cursory review. City staff have disputed this item citing permit requirements for CHL monitoring at Dechlor. FBV design engineer has disagreed.
128	Granite Material Escalation	63,432	0	9	FBV has received a claim letter from Granite Construction in the amount of \$55,966 for material and labor price escalation. The claim includes the Granite claim amount plus normal FBV mark-ups.
132.2	Add'l Paving at WRC Entrance	53,929	0	9	In a previous amendment FBV provided a \$16K credit for deleted paving that Anvil would complete including a 4" thick zone & 1.5" overlay zone. FBV portion of paving was found to be defective so the paving scope (and \$16K) is being returned to FBV. Remaining costs are disputed (included in FBV scope).
133	Rancher Gate	2,825	0	9	The work was requested by City/ConfluenceES. Costs appear to be reasonable and are tentatively recommended.
134	UV Sample Line and UVT Analyzer	37,345	0	9	The added work was required by State DDW, and assumed to have been directed by the City. Costs appear to be reasonable and are tentatively recommended.
122	Delay #2 (Beyond Seed Sludge Maint. Period)	575,674	0	10	Initial seed sludge biology was significantly weakened due in part to a lack of sufficient food and development of unfavorable water quality conditions. On October 11, 2023, there was a slug of poor-quality raw wastewater from the City's existing plant that overwhelmed and killed the biology at the WRC requiring a re-seeding of the plan.
123	Delay #3 (DDW Issues – UVAOP Challenge Test)		0	10	The Department of Drinking Water (DDW) required additional testing in two phases for the UV system of the WRC. This testing was outside of the initial permit requirements and required extensive testing, reporting, meetings, and analysis from FBV. The claim for this extended period of work is the delay caused to FBV to remain on site while still performing the additional UV/AOP challenge testing per DDW requirements.
131	SWPPP and Storm Clean up Costs		0	10	The 2022-2023 rainy season proved to be an above average rainfall event for the City of Morro Bay. This PCO covers the additional compensation for the additional storm measures, SWPPP replacement and post storm cleanup related to the unforeseen rain impacts.
138	V-Ditch Failures, Repairs, Redesign		0	10	On January 9, 2023, the City experienced a significant rainfall and runoff event that caused significant erosion and structural damage to the newly constructed V-ditch drainage system at the WRC. FBV made design improvements to

No.	Item	Approved Amount (\$)	Cal Days	Amendment No.	Description
					prevent any back channeling erosion of the V-ditch foundation and to improve the soil and structure interface of the drainage feature. FBV re-hydroseeded the hillside as well as installed a temporary irrigation system to ensure that the hydroseed established. It should be noted that the V-ditches have currently not had any issue during the rainy season this year.
139	SRF Billing Administration Effort		0	10	The SRF construction loan required a complete change to FBV's monthly billing for the project. This required a significant effort from FBV's project administration staff to collate all the task codes to the respective SRF line item.
TOTAL		\$11,765,488	202		

Appendix F

ANVIL AMENDMENT DETAILS



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 001

Project: WRF Lift Stations and OffSite Pipelines Project **Contractor:** Anvil Builders, Inc.
Date: October 12, 2021 **Project Manager:** Gary Silveira

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)
1	SHPO Delay (35 days no dig moratorium)	REG	\$ 443,000.00	40 Days
2	Add 2 Each 10-in Valves and 10-in Tee	CR1	\$ 23,498.00	0 Days
3	PS-B MAS-Relay Pump Protection Module per DC-01	CR1	\$ 13,477.00	0 Days
4	PS-A & PS-B Conduit Changes per DC-02	CR1	\$ 6,436.00	0 Days
7	Extend Waterline Relocation from Sta 71+00 to Sta 77+43	DSC	\$ 131,096.00	0 Days
12	CA-SLO-2232H Work Interruptions from Stat 147 to Sta 150	REG	\$ 56,978.00	0 Days
NET CHANGE ORDER ADJUSTMENT			\$ 674,485.00	40 Days

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00
Previous Change Orders	\$ -
Previous Contract Amount	\$ 31,493,675.00
Adjustments by this Change Order	\$ 674,485.00
New Contract Amount	\$ 32,168,160.00

CURRENT FINAL COMPLETION DATE	2/22/2022
Extension Days s (Calendar)	40 Days
NEW FINAL COMPLETION	4/3/2022

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order.

ACCEPTED

Anvil Builders Inc.

Contractor (Company Name)

(Authorized Signature)

(Date)

Gary Silveira - Project Manager

(Print Name and Title)

When signed by the Owner and Construction Manager and received by Contractor, this document becomes effective IMMEDIATELY, and the Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc

Construction Manager

Authorized Signature

(Date)

Paul Amico - Project Manager

(Print Name and Title)

ACCEPTED

City of Morro Bay

Owner

Authorized Signature

(Date)

Scott Collins - City Manager

(Print Name and Title)



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 001

Project: WRF Lift Stations and OffSite Pipelines Project

Contractor: Anvil Builders, Inc.

Date: October 12, 2021

PCO #	TILE	DESCRIPTION OF CHANGE	Reason For Change
1	SHPO Delay	Project NTP was issued on 12-14-20. Based on a notification from SHPO, a stop work order was issued by the City on 2-16-21 restricting Anvil from conducting any ground-disturbing activities. Upon resolution of SHPO concerns, Anvil was allowed to begin most project ground-disturbing activities on 3-15-21 (35 calendar days later). This issue arose from the Section 3 Consultation between EPA and SHPO required as part of the City's WIFIA loan. The process included submittal of a Monitoring Plan to EPA that SHPO needed to approve before any ground-disturbing activities could begin. The Monitoring Plan was submitted to EPA on 10-3-2020, and EPA sent the document to SHPO in early November 2020. SHPO has a statutory requirement to provide a response within 30 days. EPA received SHPO comments in February 2021, past the 30 day limit. Under the regulations, EPA and the City could have moved forward since the statutory 30 day requirement was not met. However, EPA was not willing to do so. Consequently, the City was not approved by SHPO to move forward with any ground disturbing activities until 3-15-2021. Anvil subsequently filed a delay claim and time impact analysis resulting in this change order.	REG
2	Add 2 Each 10-in Valves and 10-in Tee	Anvil exposed the existing Waterline near Sta 121+30 as required to relocate the line per Contract. The existing piping configuration was discovered to be different from what was shown on the as-built drawings. After a review, City staff concluded that a new 10" Valve and 10" Tee fitting were needed to replace the existing piping configuration. This change will increase the reliability and operability of the water distribution system.	CR1
3	PS-B MAS Pump Relay Module per DC-01	The electrical Design Engineer issued Clarification No. 1 on 3-12-2021, indicating that the Pump Station B Pumps have been provided with a different pump protection system than shown in the design. The conduit and wire changes are required to incorporate the pump protection module. As a result conduit/wiring revisions were necessary at PS-B on Drawings 20-E-02, 03, 04, 05, 08 & and 20-I-01.	CR1
4	PS-A & PS-B Conduit Changes per DC-02	The electrical Design Engineer issued Clarification No. 2 on 4-19-2021, indicating that isolation of AC and DC signals is desired to prevent potential signal interferences. The following revisions will isolate the AC signals from the DC signals. As a result conduit/wiring revisions were necessary at PS-A on Drawings 10-E-3, 10-E-6, and 10-E-7, and at PS-B on Drawings 20-E-4, 20-E-5, 20-E-8, and 20-E-9.	CR1
7	Extend 12" RO Waterline Relocation	The original Contract includes relocating an existing 12" Waterline on Quintana between Sta 77+43 and Sta 82+05, due to the waterline being in conflict with the main Joint trench. Anvil's trenching crew on Quintana encountered the waterline entering the main Joint Trench alignment at Sta 73+50. After additional potholing, the City decided to extend the water line relocation back to Sta 71+00 (adding approximately 643 LF of waterline relocation).	DSC
12	CA-SLO-2232H Work Interruptions	Trenching operations on Quintana Rd near South Bay Blvd (Sta 147 to Sta 150) was significantly impacted by two known archaeological sites (CA-SLO-2232/H and CA-SLO-1183), one of which contains recently discovered human burials. This area needed to have excavations treated differently in that direct loading of trucks was not allowed without first confirming the soil was negative for resources or remains. These instruction were provided and enforced by State mandated archeological and tribal monitors assigned to the project.	REG

REASON FOR CHANGE CODES

CR1: City requested (required)

CR2: City requested (Optional)

E&O: Design Error or Omission

ABI: Anvil request / claim item

DSC: Differing Site Conditions

REG: Regulatory Agency Item



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 002

Project: WRF Lift Stations and OffSite Pipelines Project **Contractor:** Anvil Builders, Inc.
Date: January 11, 2022 **Project Manager:** Matt Scholfield

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)
9	SoCal Gas Delays and Disruptions	ABI	\$ 43,017.00	0 Days
22	6-Inch Waterline Relocation at Pump Station A	DCS	\$ 20,147.00	0 Days
23	Miscellaneous Unforeseen Utility Work	DSC	\$ 27,198.00	0 Days
27	MTBM Delays and Disruptions - Claim Resolution	ABI	\$ 111,161.00	0 Days
28	SLO County APCD Generator Mandates – Procurements	REG	\$ 301,703.00	0 Days
34	Bike Path Jack & Bore Concrete Debris Obstruction	DSC	\$ 84,276.00	0 Days
NET CHANGE ORDER ADJUSTMENT			\$ 587,502.00	0 Days

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00
Previous Change Orders	\$ 674,485.00
Previous Contract Amount	\$ 32,168,160.00
Adjustments by this Change Order	\$ 587,502.00
Change Order to Date	\$ 1,261,987.00
New Contract Amount	\$ 32,755,662.00

CURRENT FINAL COMPLETION DATE	4/3/2022
Extension Days (Calendar)	0 Days
NEW FINAL COMPLETION	4/3/2022

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order.

ACCEPTED

Anvil Builders Inc.
 Contractor (Company Name)

(Authorized Signature) (Date)

Matt Scholfield
 (Print Name and Title)

When signed by the Construction Manager, and upon execution of source document Amendment by City Council, this document becomes effective IMMEDIATELY, and Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc / MEG Inc.
 Construction Manager

Authorized Signature (Date)

Steve Mimiaga - Construction Mngr.
 (Print Name and Title)



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 002

Project: WRF Lift Stations and OffSite Pipelines Project

Contractor: Anvil Builders, Inc.

Date: January 11, 2022

PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
9	SoCal Gas Delays and Disruptions	The project's joint trench, containing multiple pipelines, parallels an existing 16" diameter SoCal Gas high pressure gas main for nearly the entire alignment along Quintana Road. SoCal Gas requires a representative to be on site during all digging activities as well as other work activities occurring within 10 ft of the high pressure gas main (i.e. that could potentially damage or otherwise impact the main). There have been several occurrences where the SoCal Gas representative did not show up for scheduled assignments, which prevented Anvil from performing contract work and/or progressing the joint trench. In these cases Anvil's entire crew was forced to literally stand-by and wait for the SoCal Gas representative to arrive. The City/Carollo have spent considerable time and effort to coordinate between Anvil and SoCal Gas to improve communication and cooperation, but nevertheless, Anvil was negatively impacted on the following days: 5/3/21 for 2 hours, 5/17/21 for 2.5 hours, 5/18/21 for 3 hours, 6/3/21 for 2 hours, 6/17/21 for 2.5 hours for 2 different crews, 8/10/21 for 4 hours.	ABI
22	6" Waterline Relocation at Pump Sta. A	New Pump Station A is located on City property at the City's existing corporation yard on Atascadero Road. As part of the site preparation and demolition work at Pump Station A, an unknown 6" Waterline was discovered and needed to be relocated to construct the pump station. The extra work included potholing and locating the unknown utility, trenching and installation of new by-pass piping, pressure testing and disinfection of the relocated waterline, backfill and other site work.	DSC
23	Miscellaneous Unforeseen Utility Work	During the project work to date, the below noted miscellaneous unforeseen minor utility work was required for contract work to proceed. The following items are acknowledged as unforeseen conditions and as such warrant reimbursement of verified extra costs: (1) potholing unmarked utility at Pump Station A on 5/3/21, (2) emergency work to recover trench caving due to adjacent utilities from Sta 71+75 to Sta 71+85 on 6/13/21, (3) excavating around unmarked 4" (asbestos) Waterline at Sta 146+00 on 7/8/21, (4) Anvil crew standby time during potholing of incorrectly marked telephone conduit on 8/5/21, (5) unknown and unmarked Sanitary Sewer crossing at Sta 88+50, line was struck and repaired on 8/6/21, (6) potholing unknown and unmarked Sanitary Sewer lines on 8/9/21, and (7) unknown and unmarked Sanitary Sewer crossing at Sta 90+50, line was struck and repaired on 8/23/21.	DSC
27	MTBM Delays and Disruptions Claim Resolution	Anvil and their Microtunnel Boring Machine (MTBM) subcontractor, Vadnais Trenchless Services (Vadnais) encountered several unknown utilities, potential obstructions, and differing soil conditions along the MTBM alignment below the Morro Bay Roundabout, including complete equipment stoppages at approximately Sta 98+50 and Sta 98+65. Anvil's subcontractor (Vadnais) claimed delay and equipment standby time for these equipment stoppages that lasted over 8 weeks. During the 8 weeks of work stoppage, Anvil excavated and shored two separate 23 ft deep emergency recovery shafts to clear the apparent obstructions from in front of the MTBM cutting head. However, no actual obstruction was found, located, or confirmed during the recovery shaft excavations. Subsequently, the MTBM casing pipe installation was completed without further incidents. Anvil and Vadnais provided notifications of potential costs under PCO #14 and PCO #27 in excessive \$500,000 for the Vadnais equipment downtime, Vadnais loss of crew efficiencies, and for the cost of the two recovery shafts by Anvil. The City initially denied the claim for stoppages at Sta 98+50 and Sta 98+65, as no obstruction was found. The City does not dispute the other costs related to unknown utilities noted herein. After several meetings between the City, Carollo, Anvil, and Vadnais, a claim settlement was reached in the amount of \$111,161, wherein all other costs and impacts associated with both PCO #14 and PCO #27, are waived or otherwise agreed upon for the final lump sum amount noted herein.	ABI
28	SLO County APCD Emergency Generator Mandates – Procurements	On 9/24/21, the City received a Notice of Incomplete Applications from SLO County Air Pollution Control District (APCD), pursuant to the Pump Station A emergency generator and the Pump Station B emergency generator. It is City staff understanding that both generators were in compliance with APCD requirements at the time of Bid Opening in 2020. However, in late 2020, APCD rules were revised causing the two generators to now need retrofitted emissions reduction components to attain APCD compliance and approval. APCD is now also requiring Health Risk Assessments (HRAs) for both pump station sites which Carollo is undertaking via specialty subconsultant. This change order encompasses the below noted initial known costs for emissions reduction components, however it is acknowledged that there will be a subsequent change order for additional structural, mechanical, electrical, and sitework revisions necessary to implement the changes. This change order includes costs for the following assumed necessary procurement items: At Pump Station A add a Diesel Particulate Filter (DPF); and at Pump Station B add the DPF, plus Selective Catalytic Reduction (SCR) and Diesel Oxidation Catalysts (DOC) technologies.	REG
34	Bike Path Jack & Bore Concrete Debris Obstruction	On 11/11/21, about 3 pm, Anvil and their jack & bore subcontractor (Pacific Boring) encountered a concrete obstruction in the path of the 60" casing pipe. Anvil and Pacific Boring were immediately instructed to suspend the jack & bore mechanical operation and hand excavate to investigate and confirm the size and extent of the concrete obstruction. For the following 6 consecutive days (including Saturday 11/13/21 and Sunday 11/14/21), Anvil and Pacific Boring worked 8 to 10 hour shifts to hand excavate and jack hammer out the concrete obstruction, while simultaneously advancing the casing pipe about 20 ft using the hydraulic jacking equipment. On 11/18/21, the obstruction was cleared and Pacific Boring resumed normal jack & bore operations, finishing the casing installation the same day. Note that the obstruction appears to be an old Caltrans culvert structure from the original CA Route 1 highway. Also note that the jack & bore work through jurisdictional wetlands needed to proceed without delay, working through the weekend, in order to meet a California Department of Fish and Wildlife (CDFW) mandate for the tunnel to be completed by 11/19/21.	DSC

REASON FOR CHANGE CODES

CR1: City requested (required)

CR2: City requested (Optional)

E&O: Design Error or Omission

ABI: Anvil request / claim item

DSC: Differing Site Conditions

REG: Regulatory Agency Item



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 003

Project: WRF Lift Stations and OffSite Pipelines Project **Contractor:** Anvil Builders, Inc.
Date: March 22, 2022 **Project Manager:** Chris Fassari

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)
8	Additional Project Signage Costs	CR2	\$ 9,196.00	0 Days
9.2	SoCal Gas Delays and Disruptions (Part 2)	ABI	\$ 20,750.00	0 Days
13.1	CA-SLO-16 Work Revisions (Time Extension)	REG	\$ -	153 Days
16	Reroute Joint Trench below State Waterline at 121+75	DSC	\$ 144,616.00	0 Days
20	Pothole Utilities for WRF Pilot Injection Well Layout	CR2	\$ 15,291.00	0 Days
32	Broken Waterline at Quintana Road and Kings Avenue	ABI	\$ 6,198.00	0 Days
39	Cultural Monitor Extra Work at MTBM Launch Pit	DSC	\$ 45,266.00	0 Days
NET CHANGE ORDER ADJUSTMENT			\$ 241,317.00	153 Days

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00
Previous Change Orders	\$ 1,261,987.00
Previous Contract Amount	\$ 32,755,662.00
Adjustments by this Change Order	\$ 241,317.00
Change Order to Date	\$ 1,503,304.00
New Contract Amount	\$ 32,996,979.00

CURRENT FINAL COMPLETION DATE	4/3/2022
Extension Days (Calendar)	153 Days
NEW FINAL COMPLETION	9/3/2022

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order.

ACCEPTED

Anvil Builders Inc.

Contractor (Company Name)

(Authorized Signature)

(Date)

Chris Fassari

(Print Name and Title)

When signed by the Construction Manager, and upon execution of source document Amendment by City Council, this document becomes effective IMMEDIATELY, and Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc / MEG Inc.

Construction Manager

Authorized Signature

(Date)

Steve Mimiaga - Construction Mngr.

(Print Name and Title)



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 003

Project: WRF Lift Stations and OffSite Pipelines Project

Contractor: Anvil Builders, Inc.

Date: March 22, 2022

PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
8	Additional Project Signage Costs	The original contract included a \$5,000 allowance for additional signage not shown on the plans or required by the specifications. Anvil has exhausted this original budget responding to signage requests from City staff to date. This change order item provides reimbursement of Anvil costs to date to provide additional signage, including custom signs, above the \$5,000 allowance as directed by the City. These additional signs are deemed necessary for public safety, public information, enhanced traffic flow, and/or to enhance access to businesses open during construction.	CR2
9.2	SoCal Gas Delays and Disruptions (Part 2)	The project's joint trench, containing multiple pipelines, parallels an existing 16" diameter SoCal Gas high pressure gas main for nearly the entire alignment along Quintana Road. SoCal Gas requires a representative to be on site during all digging activities as well as other work activities occurring within 10 ft of the high pressure gas main (i.e. that could potentially damage or otherwise impact the main). There have been several occurrences where the SoCal Gas representative did not show up for scheduled assignments, which prevented Anvil from performing contract work and/or progressing the joint trench. In these cases Anvil's entire crew was forced to literally stand-by and wait for the SoCal Gas representative to arrive. The City/Carollo have spent considerable time and effort to coordinate between Anvil and SoCal Gas to improve communication and cooperation, but nevertheless, Anvil was negatively impacted on the following days: 8/25/21 for 2 hours, 8/26/21 for 3.5 hours, 9/16/21 for 1.5 hours, 10/7/21 for 2 hours. This is the second change order to reimburse Anvil for SoCal Gas monitor disruptions, the previous change order amount was \$43,017.00.	ABI
13.1	CA-SLO-16 Work Revisions (Time Extension)	Anvil is provided a 153 day non-compensable time extension due to impacts caused by SHPO mandated work restriction at the Morro Creek Utility Bridge, based on the following analysis and terms: Per Anvil's approved Baseline Schedule, the Utility Bridge was to start Feb 1, 2021 with 23 days of float. Per Anvil's Feb 2022 Update, the Utility Bridge was actually started Feb 24, 2022, now with 153 days of negative float (delay). It is acknowledged that SHPO restrictions prevented Anvil from starting any work at the Utility Bridge prior to Feb 24, 2022. It is acknowledged that the on-going (thru March 2022) archeologist supervised work on site, required by SHPO, continues to impact Anvil's schedule. Direct cost impacts resulting from these circumstances are being tracked separately from this analysis. Anvil is provided the 153 calendar day non-compensable time extension at this time based on the applicable Critical Path Schedule Update negative float duration discuss herein above. Anvil has submitted a Time Impact Analysis requesting 201 calendar days. Anvil and the City agree to allow Anvil to seek additional time extensions if warranted in the future when the full extent of this on-going impact is known. The current Contract completion date is 4/3/2022 (through Amendment No. 3). With 153 calendar days added, the new Contract Completion Date will be Sept 3, 2022. The City currently views the SHPO restrictions at Utility Bridge as concurrent with other Anvil caused delays (i.e. the Pump Station A Electrical Building currently has 164 days of negative float). As such the City considers this delay as non-compensable at this time (no extended overhead merit). Similar to above, Anvil and the City agree to allow Anvil the opportunity to present substantiating documentation of extended overhead merit in the future when the full extent of this on-going impact is known.	REG
16	Reroute Joint Trench below State Waterline at 121+75	Prior to starting the Joint Trench excavation near Sta 121+75, an existing 10" State Waterline was marked incorrectly in the field by the pipeline operator. Anvil excavated (potholed) the pipeline at the location marked in the field to verify its position. The State Waterline was not found at the marked location. The pipeline operator re-marked the line again in the field, this time where shown on the Contract Drawings at Sta 121+75. A pipeline was located at this location and the pipeline operators confirmed the line as the correct pipe in the field. Anvil then began excavating the 8-ft wide by 10-ft deep Joint Trench through the area. While excavating the Joint Trench, Anvil discovered another existing pipeline running adjacent to and below the pipe previously identified as the State Waterline shown on the plans. The pipeline operator subsequently confirmed that the adjacent lower pipe was actually the State Waterline to be protected in place. This caused Anvil to have to move back, re-excavate, and deepen the Joint Trench excavation from 10 ft to approximately 14 ft deep. This would allow the Joint Trench pipelines to pass below the lower pipe with required DDW clearances. In doing so, Anvil was also required to provide additional trench shoring measures and trench dewatering for the deeper trench; then Anvil encountered additional difficulties and inefficiencies installing the Joint Trench pipelines in the deeper trench, with additional groundwater, with increased soil instabilities, and additional shoring to work around, etc. Anvil was subsequently required to also provide additional Controlled Low Strength Material (CLSM) backfill and then additional select fill compaction as well. Anvil's pipe installation operation was significantly impacted over the period from 8/4/21 to 8/16/21.	DSC
20	Pothole Utilities for WRF Pilot Injection Well Layout	Anvil provided additional potholing and utility locating at the request of the City, near Anvil's stockpile and staging area on Vistra property (along Bike Path). This additional potholing and utility locating was required to determine the best location and layout for the future Pilot Injection Well to be installed under a separate City contract, as part of the Recycled Water facilities associated with the Morro Bay "Our Water" program. At the City's direction, Anvil contacted Underground Service Alert (USA), had the area underground utilities marked by utility owners, potholed several critical utilities, backfilled and restored the area, and provided resulting survey data to the City.	CR2



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 003

Project: WRF Lift Stations and OffSite Pipelines Project

Contractor: Anvil Builders, Inc.

Date: March 22, 2022

PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
32	Broken Waterline at Quintana Road and Kings Avenue	On Saturday, 10/29/21, City of Morro Bay staff observed a waterline leak where the waterline crosses the Anvil trench in the intersection of Quintana Road at Kings Avenue. The City subsequently confirmed that a 6" Water line, made of Transite (AC) pipe, had deflected and come apart just beyond Anvil's trench line. Anvil had been working in this intersection the previous week and there was strong indication that Anvil activities caused the line brake. Anvil indicated their position that they have no reason to assume they caused the water line break. The City has no reason to believe that the rupture would have occurred if not for Anvil trenching across and backfilling around the existing pipe. After additional discussion and negotiation it was agreed that the City would pay a portion of the Anvil crew expenses for repairs. The settlement amount is less than half of Anvil actual costs. Note that City staff also incurred costs for various activities including temporary repairs made when the leak was first discovered.	ABI
39	Cultural Monitor Extra Work at MTBM Launch Pit	Trenching operations just north of the Microtunnel launch pit on Quintana Road near the Morro Bay Blvd Roundabout (Sta 94 to Sta 95) was significantly impacted by a known archaeological site. Anvil work was significantly impacted by instructions provided and enforced by State mandated archeological and tribal monitors assigned to the project. During trenching in the subject area, all excavated spoils were treated differently in that direct loading of trucks was not allowed without first confirming the soil was negative for resources or remains, by hand investigations performed by the archeological and tribal monitors. Anvil's trenching and shoring operation was significantly impacted over the period from 10/21/21 to 11/8/21.	DSC

REASON FOR CHANGE CODES

CR1: City requested (required)

CR2: City requested (Optional)

E&O: Design Error or Omission

ABI: Anvil request / claim item

DSC: Differing Site Conditions

REG: Regulatory Agency Item



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 004

Project: WRF Lift Stations and OffSite Pipelines Project **Contractor:** Anvil Builders, Inc.
Date: June 14, 2022 **Project Manager:** Chris Fassari

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)
11	Reroute IPR and Water Line Below Sta. 144 Culvert	DSC	\$ 103,893.00	0 Days
19	Remove City's Existing Desalination Iron Media Tank	CR2	\$ 54,189.00	0 Days
28.1	SLO County APCD Generator Mandates (Rescind)	REG	\$ (301,703.00)	0 Days
33	Paving Repairs Near Todd's Garage	CR2	\$ 6,895.00	0 Days
41	Unknown Cementitious Subgrade at South Bay Blvd	DSC	\$ 26,600.00	0 Days
42	Unknown Conduits at South Bay Bvd and Quintana Road	DSC	\$ 7,788.00	0 Days
49	Vistra/PG&E Easements Unknown Extra Work Items	DSC	\$ 48,273.00	0 Days
NET CHANGE ORDER ADJUSTMENT			\$ (54,065.00)	0 Days

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00
Previous Change Orders	\$ 1,503,304.00
Previous Contract Amount	\$ 32,996,979.00
Adjustments by this Change Order	\$ (54,065.00)
Change Order to Date	\$ 1,449,239.00
New Contract Amount	\$ 32,942,914.00

CURRENT FINAL COMPLETION DATE	9/3/2022
Extension Days (Calendar)	0 Days
NEW FINAL COMPLETION	9/3/2022

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order (EXCEPT AS NOTED IN ITEM 13.1 HEREIN WHEREIN DELAY IMPACTS ARE ON-GOING).

ACCEPTED

Anvil Builders Inc.

Contractor (Company Name)

(Authorized Signature) (Date)

Chris Fassari

(Print Name and Title)

When signed by the Construction Manager, and upon execution of source document Amendment by City Council, this document becomes effective IMMEDIATELY, and Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc / MEG Inc.

Construction Manager

Authorized Signature (Date)

Steve Mimiaga - Construction Mngr.

(Print Name and Title)



**City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 004**

Project: WRF Lift Stations and OffSite Pipelines Project

Contractor: Anvil Builders, Inc.

Date: June 14, 2022

PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
11	Reroute IPR and Water Line Below Sta. 144 Culvert	The original design called for the IPR and Waterline relocation in this area to be placed above the existing stormwater culvert. After the trench was excavated, it was discovered that there was insufficient soil cover over the existing culvert to allow the IPR and Waterline to be installed over the top per Drawings. Consequently, these pipelines needed to be routed under the culvert, which increased the depth of excavations from 2 ft to 8 ft at Sta 143+99, thereby also increasing requirements for trench shoring, excavated spoils, backfill and compaction, , and potential groundwater management, between Sta 142+95 and Sta 144+95. Reference RFI #52.	DSC
19	Remove City's Existing Desalination Iron Media Tank	The City requested a quote from Anvil to remove and dispose of the existing Desalination Iron Media Tank (horizontal pressure filter) located east of Pump Station A, along Atascadero Rd. Anvils quote includes removal of the tank, tank supports, and air vacs atop the tank. Bid includes the removal of a max. of 20 CY of concrete inside the tank. Bid is based on the steel tank weighing a maximum of 55,000 lbs (once concrete is removed). Anvil will remove and replace the existing chain link with barbed wire fence; 50 LF max. Removal of adjacent piping and appurtenances (air-vacs, anchor bolts, etc.) is not included in this work.	CR2
28.1	SLO County APCD Generator Mandates (Rescind)	On 9/24/21, the City received a Notice of Incomplete Applications from SLO County Air Pollution Control District (APCD), pursuant to the Pump Station A emergency generator and the Pump Station B emergency generator. The City subsequently completed and submitted Health Risk Assessments (HRAs) at each Pump Station, as was required by APCD as part of their Notice of Incomplete Applications. After submission of the HRAs, APCD reversed its initial determination and accepted both generators without modifications. As such, the City and Anvil agree to rescind the associated previous change order for added (assumed) emissions control devices included in Amendment No. 2. Reference PCO #28.	REG
33	Paving Repairs Near Todd's Garage	The City requested that Anvil repair existing failing pavement in the City right-of-way adjacent to Anvil's Joint Trench excavation. It was determined that the damaged asphalt was not the fault of Anvil operations but rather the on-going inclement weather and existing deteriorated pavement conditions. This occurred near Todd's Garage at 972 Quintana Rd, Morro Bay. The area was re-paved 12/10/2021.	CR2
41	Unknown Cementitious Subgrade at South Bay Blvd	During Joint Trench and IPR excavation work on South Bay Blvd, the Contractor encountered cement-treated aggregate base-rock material below the existing pavement. This cementitious base material required additional effort and expenses in mechanical removal work and subsequent off-site disposal (material was not re-useable as backfill). This extra work warrants reimbursement of verified extra costs including documented labor, equipment, and other expenses on 2/1/2022, 2/3/2022, 2/4/2022, 2/5/2022, 2/10/2022, 2/11/2022, and 2/14/2022.	DSC
42	Unknown Conduits at South Bay Blvd and Quintana	During Joint Trench excavation work near the South Bay Blvd and Quintana Road intersection, the Contractor encountered and damaged unknown existing conduits which required additional effort and expenses to hand-dig around and repair. This extra work warrants reimbursement of verified extra costs including documented labor, equipment, and other expenses on 1/25/2022. The conduits were not shown on the plans or claimed by any known utility owner.	DSC
49	Vistra/PG&E Easements Unknown Extra Work Items	During the project work within PG&E/Vistra easements to date, the below noted miscellaneous unforeseen minor utility work was required for contract work to proceed. The following items are acknowledged as unforeseen conditions and as such warrant reimbursement of verified extra costs: (1) Excavate "test percolation ponds" at City request along Bike Path on 2/16/2022, (2) Unknown utilities encountered from Sta 53+00 to Sta 54+00 which impacted production on 2/16/2022, (3) Installation of exclusionary fencing along LS-2 as required by SHPO on 2/23/2022, (4) Potholing LS-2 alignment for unknown utilities not shown on plans but marked by utility companies on 3/7/2022, (5) Unforeseen concrete slab not shown on plans along LS-2 alignment impacting production on 3/22/2022, (6) Excavate around utilities not marked on plans along LS-2 alignment, 8 utilities total, between 3/17/2022 and 3/31/2022, (7) Sawcut, remove, and stockpile unknown concrete slab at Sta 21+00 of LS-2 alignment on 3/30/2022, and (8) Excavate and install 4" pipe and fittings to re-route existing Vistra waterline above LS-2 force main pipe on 4/6/2022.	DSC

REASON FOR CHANGE CODES
CR1: City requested (required)
CR2: City requested (Optional)
E&O: Design Error or Omission
ABI: Anvil request / claim item
DSC: Differing Site Conditions
REG: Regulatory Agency Item



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 005

Project: WRF Lift Stations and OffSite Pipelines Project **Contractor:** Anvil Builders, Inc.
Date: August 23, 2022 **Project Manager:** Chris Fassari

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)
13	Utility Bridge Abutment Changes	REG	\$ 500,000.00	60 Days
17	Add Tracer Wire, Ground Rods, Terminal Stations	CR2	\$ 108,521.00	0 Days
25	Construction Cost Escalation Increases from Vendors	DSC	\$ 292,000.00	0 Days
50	DSC at South Bay & Teresa (Utilities & Bedrock)	DSC	\$ 210,000.00	0 Days
52	High Level Switch Alarm Termination at Utility Bridge	CR1	\$ 8,743.00	0 Days
61	City Sales Tax Increase During Project	DSC	\$ 134,403.00	0 Days
NET CHANGE ORDER ADJUSTMENT			\$ 1,253,667.00	60 Days

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00	CURRENT FINAL COMPLETION DATE	9/3/2022
Previous Change Orders	\$ 1,449,239.00	Extension Days (Calendar)	60 Days
Previous Contract Amount	\$ 32,942,914.00	NEW FINAL COMPLETION	11/2/2022
Adjustments by this Change Order	\$ 1,253,667.00		
Change Order to Date	\$ 2,702,906.00		
New Contract Amount	\$ 34,196,581.00		

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order (EXCEPT AS NOTED IN ITEM 13.1 HEREIN WHEREIN DELAY IMPACTS ARE ON-GOING).

ACCEPTED

Anvil Builders Inc.

Contractor (Company Name)

(Authorized Signature) (Date)

Chris Fassari

(Print Name and Title)

When signed by the Construction Manager, and upon execution of source document Amendment by City Council, this document becomes effective IMMEDIATELY, and Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc / MEG Inc.

Construction Manager

Steve Mimiaga 8/23/2022

Authorized Signature (Date)

Steve Mimiaga - Construction Mngr.

(Print Name and Title)



**City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 005**

Project: WRF Lift Stations and OffSite Pipelines Project

Contractor: Anvil Builders, Inc.

Date: August 23, 2022

PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
13	Utility Bridge Abutment Changes	Anvil is reimbursed and compensated for extra work associated with SHPO mandated work revisions including: (1) revising trenching and finish grade requirements between Atascadero Road and the North Bridge Abutment, (2) revised slide rail shoring at both Bridge Abutment excavations, (3) mandated dewatering systems regardless of groundwater level/status, (3) and Archeologist supervised excavations with severely impacted excavation operations throughout the entire CA-SLO-16 zone. Anvil is provided a 60 day non-compensable time extension through 11/2/2022. Anvil and the City agree to allow Anvil to present substantiating documentation of associated extended overhead impacts for incorporation in a future Amendment.	REG
17	Add Tracer Wire, Ground Rods, Terminal Stations	Anvil is reimbursed and compensated for extra work associated with adding Tracer Wire on all project pipelines that are not located in a Joint Trench. This includes: 7 segments of IPR line, 2 segments of BR line, and 4 segments of Relocated Waterlines. Anvil shall provide Tracer Wire starting and/or ending terminals (Tracer Wire Test Stations per Std Det 2060 and Ground Rods per Std Det 16410). Anvil shall also provide Tracer Wire Test Stations at approximately 500' intervals throughout all associated tracer wire systems.	CR2
25	Construction Cost Escalation Increases from Vendors	Anvil is reimbursed and compensated for construction cost escalation increases from specific vendors resulting from the unprecedented COVID-19 caused inflation. The reimbursement is based on several specific vendors including: Aegion for special HDPE fusing, P&F Distributors for piping materials, Big Wakoo for fencing, Pacific Steel Group for rebar, R&B for construction materials, David Crye for trucking, JB Dewar for diesel fuel, and SC Fuels for diesel fuel. The compensation amount represents a 50/50 settlement split with Anvil.	DSC
50	DSC at South Bay & Teresa (Utilities & Bedrock)	Anvil is reimbursed and compensated for extra work associated with differing site conditions (DSC) encountered while installing project pipelines through the intersection of South Bay Blvd and Teresa Road including significant impacts for unknown bedrock over about 100-ft of trenching. This change item also includes impacts for utility conflicts encountered including for AT&T, SoCal Gas, State Water, City Water, and City Sewer. This change item also includes costs to remove and replace segments of existing City Sewer pipe and City Water pipe that were in poor condition and failing due to the adjacent bedrock excavation operations.	DSC
52	High Level Switch Alarm Termination at Utility Bridge	Anvil is reimbursed and compensated for extra work associated with eliminating the PLC at the Utility Bridge. The PLC only operated a flood sensor. The flood sensor will now be connected to the PLC at Pump Station A via added twisted shielded pair (control wire) running in one of the innerducts in the 4" FO conduit. The purchased PLC, solar panel, and other related equipment will be provided to the City as spare parts.	CR1
61	City Sales Tax Increase During Project	Anvil is reimbursed and compensated for extra costs associated with the City raising local Sales Tax by 1% effective 4/1/2021, essentially just after Anvil started working on the project. This settlement amount is calculated to reflect 1% of all goods and materials purchased within the City and delivered to the site.	DSC

REASON FOR CHANGE CODES
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CR2: City requested (Optional)
E&O: Design Error or Omission
ABI: Anvil request / claim item
DSC: Differing Site Conditions
REG: Regulatory Agency Item



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 006

Project: WRF Lift Stations and OffSite Pipelines Project **Contractor:** Anvil Builders, Inc.
Date: November 29, 2022 **Project Manager:** Brett Bennett

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)	
26	Relocate 12" City RO Waterline at Sta 87+00	DSC	\$ 130,452.00	6	Days
31	Existing Storm Drains Collapse at Sta 63+97	DSC	\$ 7,389.00	2	
35	Existing RO Brine Line Discharge to WRF Outfall	REG	\$ 200,000.00	12	Days
36	DDW Initiated Realignment btwn Sta 99 and Sta 116	REG	\$ 82,892.00	2	
37	Restoration of Quintana Near Kings during Inclement Weather	DSC	\$ 13,000.00		
45	Atascadero BR and Joint Trench Realignments	DSC	\$ 34,023.00		
53	Pump Station B Grading and Drainage Revisions	E&O	\$ 65,102.00	5	Days
55	200 LF Fused 4" HDPE for City Emergency Leak Response	CR2	\$ 1,338.00		
57	Add FCA Restraint Rods and Lugs at Pump Stations	E&O	\$ 47,647.00		
58	Change Wet Well Piping Fit-up Bolts to 316SS (RFI 122)	CR2	\$ 9,963.00		
59	Pump Station A Retaining Wall Revision to Detail 1	E&O	\$ 20,837.00		
68	Waterline Breaks on Atascadero Road near Hwy 1	DSC	\$ 34,120.00	2	
NET CHANGE ORDER ADJUSTMENT			\$ 646,763.00	29 Days	

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00	CURRENT FINAL COMPLETION DATE	11/2/2022
Previous Change Orders	\$ 2,702,906.00	Extension Days (Calendar)	29 Days
Previous Contract Amount	\$ 34,196,581.00	NEW FINAL COMPLETION	12/1/2022
Adjustments by this Change Order	\$ 646,763.00		
Change Order to Date	\$ 3,349,669.00		
New Contract Amount	\$ 34,843,344.00		

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order (EXCEPT AS NOTED IN ITEM 13.1 HEREIN WHEREIN DELAY IMPACTS ARE ON-GOING).

ACCEPTED

Anvil Builders Inc.

Contractor (Company Name)

[Signature] 12/01/2022

(Authorized Signature) (Date)

Brett Bennett PM

(Print Name and Title)

When signed by the Construction Manager, and upon execution of source document Amendment by City Council, this document becomes effective IMMEDIATELY, and Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc / MEG Inc.

Construction Manager

Authorized Signature (Date)

Steve Mimiaga - Construction Mngr.

(Print Name and Title)



**City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 006**

Project: WRF Lift Stations and OffSite Pipelines Project

Contractor: Anvil Builders, Inc.

Date: November 29, 2022

PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
26	Relocate 12" City RO Waterline at Sta 87+00	Anvil is reimbursed for extra work to relocate 12" City RO Waterline from Sta 85+90 to Sta 88+00, including potholing, saw cutting, trench excavation from Sta 85+90 to 88+00, installing waterline and backfill, hydrostatic testing, chlorinating, flushing, sampling/testing for BACT, placing concrete kickers for 45-degree elbows at tie-ins, and temporary paving. The relocation work was necessary to provide minimum clearance between the existing waterline and new parallel sewer lines.	DSC
31	Existing Storm Drains Collapse at Sta 63+97	Anvil is reimbursed for extra work to repair collapsed storm drain at Sta 64+00, including excavating damaged storm drain, installation of new SD pipe, placement of CLSM backfill, backfilling and temporary paving.	DSC
35	Existing RO Brine Line Discharge to WRF Outfall	Anvil is reimbursed for extra work related to the City's groundwater RO facility, including re-routing RO concentrate to the existing Air Relief Structure (Ocean Outfall), setting a new 48" sewer diversion manhole near RO Bldg and connecting a new 12" SS to new influent manhole, upsizing new sewer from 8" to 12" (noted above) from added 48" sewer diversion manhole to new influent manhole, installing new 6" RO flush line across Pump Station A site to retaining wall penetration and Cam-Lok (for flushing emergency storage tanks), deleting 6" flush line and vaults shown on Contract Drawings, connecting to existing re-purposed Desal Feed line for new RO discharge (from RO Bldg), and connecting new 6" ROC line to the existing Air relief Structure (Ocean Outfall).	REG
36	DDW Initiated Realignment btwn Sta 100 and Sta 116	Anvil is reimbursed for extra work to relocate or sleeve existing utilities located too close to new Sewer Force Mains and/or the IPR line as determined by the State of California Department of Drinking Water (DDW), including at Stations 100+56, 108+20, 113+52, and 115+52. The work includes potholing in advance of the work, saw cutting and excavating existing utilities to be relocated or sleeved, installing new piping and/or sleeve casing pipes, backfilling, compacting, and temporary paving.	REG
37	Restoration of Quintana Near Kings during Inclement Weather	Anvil is reimbursed for extra work to temporarily restore pavement on Quintana Road near Kings Avenue after an inclement weather event. The work included placement of CLSM backfill in a low area, installation, and maintenance of temporary cold mix asphalt. Temporary repairs were requested by City staff for public safety.	DSC
45	Atascadero BR and Joint Trench Realignments	Anvil is reimbursed for extra work to mitigate and realign the joint trench on Atascadero Road due to potential conflicts with existing utilities and to mitigate the narrow road leaving minimal space for traffic control devices on paved surfacing. Anvil extra work included, confirming the location of existing parallel waterlines by potholing, confirming the vertical clearance between the revised joint trench and all known crossing waterlines, confirming no conflict with other adjacent and crossing utilities, and paint marking in the field, the edges (sawcut lines) of Anvil's proposed Joint Trench for City staff review.	DSC
53	Pump Station Grading and Drainage Revisions	Anvil is reimbursed for extra work to correct grading and drainage issues at Pump Station B as noted in RFI #162, including adding various grade changes, grade breaks, and elevation adjustments throughout the pump station site, adding a concrete curb around the Electrical Building, and adding a concrete valley gutter, drain inlet, and curb drain to allow precipitation runoff to leave the site and flow into the existing Main Street storm drain system.	E&O

55	200 LF Fused 4" HDPE for City Emergency Leak Response	Anvil is reimbursed for extra work to provide 200 LF fused 4-in HDPE for City use in their emergency response to a leak below Route-1 near Cloisters Park. This work is not otherwise related to the Anvil Pipelines and Pump Stations project.	CR2
57	Add FCA Restraint Rods and Lugs at Pump Stations	Anvil is reimbursed for extra work to furnish and install restraint rods and lugs at all flange coupling adapters (FCAs) at each pump station. This includes 6 each FCAs at Pump Station A and 6 each FCAs at Pump Station B. Without these restraint rods the FCAs could come apart and/or leak during high pressure conditions for the noted above grade portions of pump station discharge piping.	E&O
58	Change Wet Well Piping Fit-up Bolts to 316SS (RFI 122)	Anvil is reimbursed for extra work to furnish and Install stainless steel flange bolts for all flanged piping connections within wastewater wet wells at both Pump Station A and Pump Station B. The specified carbon steel bolts would have a significantly shorter service life.	CR2
59	Pump Station A Retaining Wall Revision to Detail 1	Anvil is reimbursed for extra work to increase the size of the pump station site retaining wall and concrete footing, and to add steps in the wall/footing as required. The extra work includes increasing the size of the reinforced concrete footing and changing the CMU blocks from 8" to 10" for additional structural strength. The work also includes adding 3 steps in the wall to accommodate planned finish grading at Pump Station A.	E&O
68	Waterline Breaks on Atascadero Road near Hwy 1	Anvil is reimbursed for extra work to repair a broken existing City waterline that failed during Anvil's work near Sta 26+75, which ceased crew work and diverted resources to repair the failed waterline. The work includes saw cutting and excavating the existing waterline, installing new piping and repair couplings, backfilling, compacting, and temporary paving. The extra work occurred mostly after hours on June 7, 2022.	DSC

REASON FOR CHANGE CODES

CR1: City requested (required)

CR2: City requested (Optional)

E&O: Design Error or Omission

ABJ: Anvil request / claim item

DSC: Differing Site Conditions

REG: Regulatory Agency Item



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 007

Project: WRF Lift Stations and OffSite Pipelines Project **Contractor:** Anvil Builders, Inc.
Date: February 28, 2023 **Project Manager:** ~~Chris Fassari~~ *Brett Bennett*

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)	
5	Pump Station A Excavation NPDES Dewatering Permit	REG	\$ 55,856.00	0	Days
8	Additional Project Signage Costs	CR1	\$ 3,856.00	0	Days
23.1	Miscellaneous Unforeseen Utility Work (Part 2)	DSC	\$ 17,949.00	0	Days
66	Repair Leaking City Waterline at North Abutment	CR1	\$ 10,958.00	0	Days
75	Additional Bollards Required by PG&E at Pump Stations	REG	\$ 15,013.00	0	Days
78	Change 1-in. AIR-DR Piping to Stainless Steel (DC #35)	CR1	\$ 16,839.00	0	Days
80	Repair Existing Leaking RO Line at PS-A Site (Pre-Existing Leak)	CR1	\$ 4,499.00	0	Days
NET CHANGE ORDER ADJUSTMENT			\$ 124,970.00	0 Days	

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00
Previous Change Orders	\$ 3,349,669.00
Previous Contract Amount	\$ 34,843,344.00
Adjustments by this Change Order	\$ 124,970.00
Change Order to Date	\$ 3,474,639.00
New Contract Amount	\$ 34,968,314.00

CURRENT FINAL COMPLETION DATE	12/1/2022
Extension Days (Calendar)	0 Days
NEW FINAL COMPLETION	12/1/2022

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order (EXCEPT AS NOTED IN ITEM 13.1 HEREIN WHEREIN DELAY IMPACTS ARE ON-GOING).

ACCEPTED
 Anvil Builders Inc.
 Contractor (Company Name)
Brett Bennett 3/15/2023
 (Authorized Signature) (Date)
 Chris Fassari *Brett Bennett, PM*
 (Print Name and Title)

When signed by the Construction Manager, and upon execution of source document Amendment by City Council, this document becomes effective IMMEDIATELY, and Contractor shall proceed with the change(s) described above.

APPROVED
 Carollo Engineers Inc / MEG Inc.
 Construction Manager

 Authorized Signature (Date)
 Steve Mimiaga - Construction Mngr.
 (Print Name and Title)



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 007

Project: WRF Lift Stations and OffSite Pipelines Project

Contractor: Anvil Builders, Inc.

Date: February 28, 2023

PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
5	Pump Station A Excavation NPDES Dewatering Permit	The Contract permitted Anvil to discharge groundwater from the Pump Station A excavation into the sanitary sewer. The City later determined that the dewatering discharge could adversely affect the existing WWTP. The City obtained a permit from the Regional Board to discharge to the City's existing RO discharge outfall. The discharge permit required an extensive sampling and testing program, which Anvil is being reimbursed for. The costs also include added temporary piping and added shoring rental costs for the month or so while the City obtained the new discharge permit.	REG
8	Additional Project Signage Costs	The original contract included a \$5,000 allowance for additional signage not shown on the plans. Anvil exhausted this original budget responding to signage requests from City staff. Anvil also was reimbursed under previous PCO 8.1 for added signage through 2021. This PCO 8.2 provides reimbursement of Anvil costs during 2022 to provide signage requested by the City, including custom signs. These additional signs are deemed necessary for public safety, public information, improved traffic flow, and/or to enhance access to businesses open during construction.	CR1
23	Miscellaneous Unforeseen Utility Work (Part 2)	During project work to date, the below noted miscellaneous unforeseen minor utility work was required for Contract work to proceed. The following items are acknowledged as unforeseen conditions and as such warrant reimbursement of verified extra costs: (1) IPR pipe minimum cover determination delay and standby time on 6/29/22; (2) locating unknown underground utilities requested/required by SoCal Gas on 7/28/22 and 7/29/22; and (3) delay costs and repair costs from an existing unknown and unmarked 2" waterline broken by Anvil on Kennedy Way on 8/30/22.	DSC
66	Repair Leaking City Waterline at North Abutment	On 9/20/22, Anvil staff observed at ground level a waterline leak where the waterline crosses Anvil's work area near the Morro Creek Utility Bridge north abutment. The City subsequently confirmed that a City Water line, made of Transite (AC) pipe, was leaking. Anvil crews excavated the pipeline, located the leak, and repaired the leak at the City's request. It is not believed that Anvil activities caused the leak.	CR1
75	Additional Bollards Required by PG&E at Pump Stations	The Contract Drawings indicate an arrangement of steel bollards filled with concrete surrounding the new PG&E transformer equipment at both Pump Station A and Pump Station B. The bollards are intended to prevent vehicular traffic from coming in contact with the transformer equipment (for human safety and equipment protection). During site inspections by PG&E staff in advance of installing the new transformers, PG&E required that Anvil increase the number of bollards at both Pump Stations. Anvil is seeking reimbursement for this added work not shown on the Contract Drawings.	REG
78	Change 1-in. AIR-DR Piping to Stainless Steel (DC #35)	The Contract Drawings indicate 1" piping between each pump station discharge pipe assembly and the adjacent wet well below. Each Pump Station as 3 pumps and 3 discharge pipe assemblies with various instruments and appurtatances. Each discharge assemble also includes a 1" pipe with ball valve leading back to the adjacent wet well. This pipe can be used to release trapped air or drain sewage back to the wet well. The Contract Drawings call for Sch 40 PVC piping. During start-up one of these 1" pipe assembles failed on high pressure. The City subsequently directed Anvil to replace all 6 1" pipe assemblies with 316 Stainless Steel piping, fittings, and valves.	CR1
80	Repair Existing Leaking RO Line at PS-A Site (Pre-Existing Leak)	On 11/18/22, Anvil and City staff observed at ground level an apparent waterline leak on site at Pump Station A. The City subsequently confirmed that it was the City's existing RO brine discharge line leading to the ocean discharge. Anvil crews excavated the pipeline, located the leak, and repaired the leak at the City's request. The leak is confirmed to be pre-existing and not caused by Anvil activities.	CR1

REASON FOR CHANGE CODES

CR1: City requested (required)

CR2: City requested (Optional)

E&O: Design Error or Omission

ABI: Anvil request / claim item

DSC: Differing Site Conditions

REG: Regulatory Agency Item



**City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 008**

Project: WRF Lift Stations and OffSite Pipelines Project **Contractor:** Anvil Builders, Inc.
Date: **Project Manager:** Chris Fassari

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)
30.1	Bike Path Joint Trench and Waterline Re-Design		\$ 5,635.00	Days
33.1.1	Paving Limit Revisions		\$ 537,118.00	Days
47	Steel Casings on the Morro Creek Pipe Bridge		\$ 99,587.00	Days
52.2	High Level Switch Alarm Termination at Utility Bridge		\$ 28,627.00	Days
56	Fiber Optic Design Revisions and Upgrades		\$ 134,605.00	Days
64	Existing Lift Station 3 Connection and Utility Conflicts		\$ 71,000.00	Days
65	Relocate New Diversion Manhole and Replace Existing Manhole		\$ 296,404.00	Days
67	Waterline Replacement Conflicts near Mortuary		\$ 86,171.00	Days
69	Tie-in HDPE Lines at WRC		\$ 18,705.00	Days
71	Reroute Sewage Back to the Old Plant on 10/11		\$ 59,642.00	Days
73	Guide Rail Modifications at Wet Wells		\$ 32,756.00	Days
82.2	Additional Flatwork Concrete (Quantity Overruns)		\$ 62,920.00	Days
83	Existing Waterline Replacement at Pump Station A		\$ 117,664.00	Days
84	Disputed Caltrans R/W Restoration Costs		\$ 10,885.00	Days
86	Transport FPVC Pipe to WRC Site		\$ 1,770.00	Days
89.1	Fencing Modifications		\$ 33,980.00	Days
90	PS-A & PS-B VFD Auto-Reset due to Power Voltage Drops		\$ 12,392.00	Days
94	Standby Excavator at Morro Creek for Rain Event		\$ 8,402.00	Days
96	Raise F.O. Box at FBV Paving Error		\$ 5,029.00	Days
98	Credit for Deleting 36-inch Storm Drain relocation		\$ (207,000.00)	Days
			\$ 1,416,292.00	0 Days

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00
Previous Change Orders	\$ 3,474,639.00
Previous Contract Amount	\$ 34,968,314.00
Adjustments by this Change Order	\$ 1,416,292.00
Change Order to Date	\$ 4,890,931.00
New Contract Amount	\$ 36,384,606.00

CURRENT FINAL COMPLETION DATE	12/1/2022
Extension Days (Calendar)	0 Days
NEW FINAL COMPLETION	12/1/2022

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order (EXCEPT AS NOTED IN ITEM 13.1 HEREIN WHEREIN DELAY IMPACTS ARE ON-GOING).

ACCEPTED

Anvil Builders Inc.
Contractor (Company Name)

(Authorized Signature) (Date)
Chris Fassari
(Print Name and Title)

When signed by the Construction Manager, and upon execution of source document Amendment by City Council, this document becomes effective IMMEDIATELY, and Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc / MEG Inc.
Construction Manager

Authorized Signature (Date)
Steve Mimiaga - Construction Mngr.
(Print Name and Title)



**City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 008**

Project: WRF Lift Stations and OffSite Pipelines Project

Contractor: Anvil Builders, Inc.

Date:

PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
30	Bike Path Joint Trench and Waterline Re-Designs	At the City's request and direction, Anvil subcontracted with Firma Consultants to undertake several landscaping design tasks associated with restoring landscaping along the City's Bike Path from Morro Creek to Camp Willow Creek. These task included preparing a 50% design plan to revegetate the area, add possible decomposed granite path, add bench areas, add rural fencing, add irrigation systems, and other possible improvements.	
33.1.1	Paving Limit Restrictions	This item includes paving quantities paid under Bid Items 61, 62, and 63 in excess of the quantities included in the original contract documents. It also includes grinding existing pavement and placing new pavement on the north side of Quintana between Las Tunas and La Loma, digging out and replacing saturated subgrade at Quintana and Kings Ave, and paving the LS-2 force main alignment in the City's easement on the Vistra property.	
47	Steel Casing on Morro Creek Pipe Bridge	The Design Engineer inadvertently specified a casing size too small to fit the carrier pipe joint restraints, to address the situation Anvil was directed to delete the Brine Line D.I.P. carrier pipe and accommodate flow in the field coated steel casing pipe, and the FM1 and FM2 carrier pipes were downsized to fit in the casing. This resulted in Anvil reduced costs for deleted and downsized carrier pipes, and increased costs for added necessary fittings at each bridge abutment. Carollo has rejected costs and consider cost items to be offsetting due to the reduced cost for carrier pipes and Anvil's initial error in failing to factory coat the interior of casing pipes.	
52.2	High Level Switch Alarm Termination at Utility Bridge	Change initiated by City to change from solar powered telemetry to direct PLC wiring to PS-A. The costs under PCO 52 (previously approved) and PCO 52.1 (current item) appear to be reasonable. The original PLC and solar power equipment have been provided to the City.	
56	Fiber Optic Design Revisions and Upgrades	The City's SCADA integrator JSP Automation recommended the City implement multiple fiber option network revisions and upgrades beyond what was included in the original contract, and the City agreed with the recommendations. The changes encompassed multiple equipment components and communication protocols at essentially all locations on the project, including the WRC, Pump Station A, Pump Station B, existing Lift Stations, and at the City's point of connection with City existing network.	
64	Existing Lift Station 3 Connection and Utility Conflicts	Several existing utility conflicts were identified after Anvil potholed existing utilities near the existing Lift Station 3 (LS-3) to confirm the utility locations shown on the drawings. These conflicts were due to inaccurate record drawing information or the discovery of unmapped utilities and resulted in the need for the original LS-3 connection design to be modified to route the connections over existing pipes, causing hydraulic high points in the parallel branch connection lines. These high points required the addition of extra pipe fittings, two sewer-rated combination air/vacuum release (CAV) valves, and a vault to house the added CAVs. Approximately \$50K in standby equipment was removed from Anvil's original request.	
65	Relocate New Diversion Manhole and Replace Existing Manhole	Several existing utility conflicts were identified after Anvil potholed existing utilities at the location of the Pump Station A diversion manhole to confirm the utility locations shown on the drawings. These conflicts included existing electrical and communications conduits and were due to inaccurate record drawing information or the discovery of unmapped utilities. An existing adjacent manhole that was designed to remain in place was also discovered to be in substandard and failing condition. Consequently, the City and designer concluded it would be beneficial to relocate the new diversion manhole to the location of the existing failing manhole and replace it. Constructing the new diversion manhole in this location was valuable for the long-term even though it complicated construction and included constructing a cast-in-place concrete manhole base rather than utilizing the pre-cast base specified in the original design, because it allowed the City to replace a failing manhole on a critical sewer line. Approximately \$41K was removed from Anvil's original request.	

67	Waterline Replacement Conflicts near Mortuary	Several existing utility conflicts and a buried concrete wing wall were identified after Anvil potholed existing utilities near 1401 Quintana Road to confirm the utility locations shown on the drawings. These conflicts included a communications conduit and the wing wall associated with the State-owned arched culvert at Station 144+00 and were due to inaccurate record drawing information or the discovery of unmapped utilities. Anvil needed to excavate carefully around these conflicts and re-route the new 10" waterline replacement in this area to avoid the existing conflicts. The majority of extra costs are associated with potholing and discovering the limits of the buried unknown wing wall.	
69	Tie-in HDPE Lines at WRC	Anvil's contract included making the pipeline and fiber optic connections between the Conveyance Facilities and WRC projects near the WRC entrance on Theresa Dr. While Anvil was attempting to connect pipelines, small quantities of test water continued to flow from the WRC on-site piping, and making the connections requires the pipelines to be completely dry. It took several days for FBV to identify and close valves and stop the nuisance water from flowing into the connections, and Anvil incurred additional costs for the delay and to deal with the water before it was stopped.	
71	Reroute Sewage Back to the Old Plant on November 11, 2022	During WRC startup, FBV determined that the new WRC treatment process was at risk for failure and wastewater flow needed to be routed back to the City's existing WWTP so the treatment biology could be re-seeded and wastewater flow introduced at a slower rate. Consequently, Anvil needed to reinstall the plug in the diversion manhole near Pump Station A and reestablish the sewer bypass at that location. This item includes the costs for standby equipment rental, trench shoring rental, crash barriers, fencing, and road plates, and it also includes labor and materials for plugging the diversion manhole and reinstating the bypass.	
73	Guide Rail Modifications at Wet Wells	The Design Engineer issued Design Clarification No. 32 to modify submersible pump guide rails at both Pump Station A and Pump Station B wet wells. Due to space constraints in the pump station wet wells, the 3 submersible pumps needed to be re-positioned in each wet well, and the pump guide rails no longer aligned with the edge of the hatch opening above (as designed). Consequently, it was necessary to re-design and modify the guide rail top mounting bracket using off-set knee bracing and other added structural supports. This item includes labor and materials to implement the design change.	
82.2	Additional Flatworks Concrete	The Contract Drawings specifically indicate the removal and replacement of existing concrete flatwork (sidewalks, curb, gutters, etc.) in multiple locations adjacent to the new work associated with the project. Additional areas of adjacent concrete was identified during punchlist development to have been impacted by Anvil's work, but wasn't specifically identified in the contract drawings. There are also quantities included in this PCO for sidewalks adjacent to prior-approved changes in contract work that required repair or replacement due to changes in the scope of work.	
83	Existing Waterline Replacement at Pump Station A	The construction of Pump Station A required an extensive shoring and groundwater dewatering system. The large, shored area was directly adjacent to an existing 6" transite City water main. During the project, the City was concerned that the shoring and dewatering operation would undermine and impact the existing water line, so the City added isolation valves on each side of the shoring, and closed those valves to isolate the segment of water main for over a year. Recently the City re-pressurized the line and found it to be leaking in several locations. Anvil has been directed to replace about 210' of waterline at their expense including various fittings and appurtenances, and Anvil has disputed that they are responsible for this water main replacement.	
84	Disputed Caltrans Right-of-Way Restoration Costs	Anvil issued Request for Information (RFI) #305 regarding Caltrans requested/directed restoration work that Anvil believes is beyond the Contract scope. These items include (1) additional 2' wide strip of aggregate shoulder backing along the Atascadero Road S/B on-ramp; (2) additional fiber roll erosion control for the slope along the Atascadero Road S/B on-ramp; and (3) additional compost sock or fiber roll be added to the bottom (toe) of the slope along the Atascadero Road S/B on-ramp.	
86	Transport FPVC to WRC Site	The City directed Anvil to transport unused FPVC pipe to be stored at the WRC site for futher use. The contract did not specifically require this and Anvil incurred labor and fuel costs to transport and unload the pipe at the new WRC.	
89.1	Fencing Modifications	This item includes Anvil labor, equipment, and material cost to replace existing fencing that was necessary to be removed to complete project work, but not specifically identified on the contract drawings. It is paid under a contract bid item and is for additional quantity beyond what was included in the bid.	

90	PS-A and PS-B VFD Auto-Reset due to Power Voltage Drops	After commissioning both PS-A and PS-B, PG&E power voltage drops during inclement weather caused several pump motor VFD faults. After attempting to adjust VFD settings, the City directed Anvil to add a remote auto-resets for the VFDs, including adding programming by the City's SCADA integrator and the required field wiring so City operations staff do not have to physically respond to the faults as shutdown emergencies.	
94	Standby Excavator at Morro Creek for Rain Event	Not related to the project work, and as an emergency standby during a forecasted major storm event on March 9 and 10, the City requested Anvil to provide a Cat 315 excavator and operator on standby to clear debris from under the Main St bridge should it be determined that the debris could cause or contribute to flooding in this area. This item includes equipment mobilization and demobilization costs, daily standby costs, and equipment and labor cost.	
96	Raise Fiber Optic Box at FBV Paving Error	This work includes demolishing existing asphalt concrete around a newly installed fiber optic box and raising the fiber optic box lid to the appropriate grade. The asphalt was removed due in part to FBV laying asphalt at the incorrect grade at the WRC entrance. Work also included pouring a concrete collar around the fiber optic box.	
98	Credit for Deleting 36-inch Storm Drain relocation	Bid Item 44 calls for the relocation of a 36-inch storm drain property to the northeast of the roundabout. Currently at the location of Anvil's field office. This work was removed from Anvil's contract at the direction of the City.	

REASON FOR CHANGE CODES

CR1: City requested (required)

CR2: City requested (Optional)

E&O: Design Error or Omission

ABI: Anvil request / claim item

DSC: Differing Site Conditions

REG: Regulatory Agency Item



City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 009

Exhibit C

Project: WRF Lift Stations and OffSite Pipelines Project **Contractor:** Anvil Builders, Inc.
Date: June 27th, 2023 **Project Manager:** Chris Fassari

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Amount	Contract Time (Calendar Days)	
33.1.1	Paving Limit Revisions	\$ 441,351.00	0	Days
60	Anvil Acceleration & Extended Overhead Claim	\$ 326,793.00	0	Days
74	Temporary Flood Alarm at Utility Bridge North Abutment	\$ 48,620.00	0	Days
81	Additional Striping Costs for Thermoplastic Striping	\$ 39,226.00	0	Days
87	Relocating Temp Fence on Bike Path	\$ 4,201.00	0	Days
91	Additional Grading in Maintenance yard at PS-A	\$ 19,809.00	0	Days
NET CHANGE ORDER ADJUSTMENT		\$ 880,000.00	0 Days	

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00	CURRENT FINAL COMPLETION DATE	12/1/2022
Previous Change Orders (1-8)	\$ 4,890,931.00	Extension Days (Calendar)	0 Days
Previous Contract Amount	\$ 36,384,606.00	NEW FINAL COMPLETION	12/1/2022
Adjustments by this Change Order	\$ 880,000.00		
Change Order to Date	\$ 5,770,931.00		
New Contract Amount	\$ 37,264,606.00		

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order (EXCEPT AS NOTED IN ITEM 13.1 HEREIN WHEREIN DELAY IMPACTS ARE ON-GOING).

ACCEPTED

Anvil Builders Inc.

Contractor (Company Name)

(Authorized Signature)

(Date)

Chris Fassari

(Print Name and Title)

When signed by the Construction Manager, and upon execution of source document Amendment by City Council, this document becomes effective IMMEDIATELY, and Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc / MEG Inc.

Construction Manager

Authorized Signature

(Date)

Steve Mimiaga - Construction Mngr.

(Print Name and Title)



**City of Morro Bay
Water Reclamation Facility
Lift Stations and Offsite Pipelines Project
CHANGE ORDER 009**

Exhibi

Project: WRF Lift Stations and OffSite Pipelines Project

Contractor: Anvil Builders, Inc.

Date: June 27, 2023

PCO	TILE	DESCRIPTION OF CHANGE
33.1.1	Paving Limit Revisions	This item includes paving quantities paid under the original contract bid items in excess of the quantities included in the original contract documents.
60	Anvil Acceleration & Extended Overhead Claim	On 5/11/22, the City requested that Anvil immediately implement a recovery schedule in order to meet the City's Time Schedule Order deadline for achieving full operation of WRF and Conveyance wastewater facilities. Anvil developed and implemented their Recovery Schedule to achieve the milestones. This was accomplished through re-sequencing, providing additional manpower, and working overtime to accelerate activities.
74	Temporary Flood Alarm at Utility Bridge North Abutment	The Morro Creek Utility Bridge was designed to include a sewage leak detection system powered by a photovoltaic solar panel. The City simplified the arrangement to delete the solar panel and direct-wire the alarm to the Pump Station A main control panel that is approximately 2000' from the utility bridge. Anvil needed to install a temporary diesel generator-powered flood alarm to meet the October 2022 project commissioning effort because the materials and equipment were impacted by supply chain disruptions and would not be available to meet the deadline.
81	Additional Striping Costs for Thermoplastic Striping	Anvil issued Request for Information (RFI) #302 to request clarification on the City's requirements for lane and pavement striping material. The City responded to the RFI and required that Anvil provide thermoplastic lane striping for turn arrows, bike lane symbols, and other markings (speed limit, stop, limit lines, cross walks, etc.), pursuant to 2010 Caltrans specifications. The remainder of lane striping will be 2-coat paint. Anvil requested reimbursement for thermoplastic striping with the justification that it was not specifically required by Contract Drawings or Specifications. The City disputed that claim and the amount included is a 50/50 split, which Anvil has agreed to.
87	Relocating Temp Fence on Bike Path	This PCO covers the level of effort for Anvil to completely adjust their entire temporary fence location due to work being performed by PG&E.
91	Additional Grading in Maintenance yard at PS-A	The contract drawings indicate a specific area limit for removal of existing pavement around PS-A including removal of existing pavement in the City Corp Yard Driveway. The contract drawings do not indicate any pavement restoration or re-grading in the City Corp Yard Driveway. Grading and paving in other adjacent areas is called out on the drawings. Anvil was required to add Class 2 Aggregate Base and grading of the driveway to match grades with the new sidewalk and new Corp Yard gate.