



Staff Report

TO: City Council
FROM: Kristine Day, Assistant City Manager
DATE: December 15, 2020
SUBJECT: **City Council Approval of Change Order No. 17 for the Wastewater Treatment Plant Upgrade/Expansion in the Amount Not to Exceed \$159,422.86**

Background and Analysis:

Wastewater Treatment Plant Change Order No. 17:

Item #1 – Recycled Water Pipeline to Future Recycled Water Pump Station

In working with Beaumont Cherry Valley Water District on the distribution of Title 22 water from the WWTP, it has been determined the initial siting of the Recycled Water Pump Station is best suited for an alternative location. As such, new piping needs to be installed from the holding tanks at the WWTP to the new location at the rear of the Community Services yard which next door to the plant. The cost of this work is \$140,662.15.

Item #2 – Inclement Weather Time Extension

Inclement weather has delayed the project during the construction period from May 1, 2019, to April 30, 2020. Based upon review of the Contractor's schedule, MWHC is recommending non-compensable time extension of 24 calendar days for Phase 1 and 29 calendar days for Phase 2. With these time adjustments, Phase 1 completion was May 20, 2020, and Phase 2 completion will be May 30, 2021. There is no cost for this change order.

Item #3 – RO Skid Control Valve Modifications

Initial WWTP data used for design indicated the maximum water temperature was 75 degrees F. Upon initial startup of the reverse osmosis (RO) system, the water temperature exceeded 80 degrees F. The recovery rate of the RO system at this higher temperature was 83%. The target recovery rate for the system is 80%. The operations staff needs to have the ability to adjust recovery rate to optimize chemical usage, brine production, cleaning frequency, and membrane life. In order to adjust recovery rates, modifications needed to be made to the concentrate control valves on each of the 5

trains. The RO manufacturer required this change out prior to the start up of the RO system due to the strain on the costly membranes. The cost for this work was \$9,799.38.

Item #4 – MBR Feed Pump Seal Water Control Changes

The MBR Feed Pumps deliver water into the MBR system and are a critical piece of equipment for the operation of the Plant. The pumps require seal water for operation. If the seal water is lost or if the VFDs get tripped they require a manual reset that requires an operator to be onsite. This change installs a means to reset the VFDs through the SCADA system without an operator being onsite and saves operation costs long term. The cost for this work is \$8,961.33.

Summary of Change Order No. 17 Costs:

The cumulative costs associated with this change order is in the amount not to exceed \$159,422.86 and will not impact the project schedule. The costs for the change order are as summarized below.

Item	Cost
Item #1 - RW Pipeline to Future RW Pump Station	\$140,662.15
Item #2 - Inclement Weather Time Extension	\$0
Item #3 - RO Skid Control Valve Modifications	\$9,799.38
Item #4 - MBR Feed Pump Seal Water Control Changes	\$8,961.33
Total	\$159,422.86

Fiscal Impact:

WWTP	Budget Amount	Paid to Date	Remaining
Design	\$2,697,942.63	\$2,556,828.66	\$141,113.97
Construction Management	\$5,082,475.75	\$4,905,144.68	\$177,331.07
Equipment	\$252,906.00	\$256,216.13	\$(3,310.13)
Permits	\$324,776.76	\$117,566.12	\$207,210.64
Construction	\$53,910,737.00	\$39,224,465.26	\$14,686,271.74
Contingency	\$4,000,000.00	\$1,571,627.37	\$2,428,372.63
Unallocated	\$4,065,594.24	\$0.00	\$4,065,594.24

Total	\$70,334,432.38	\$48,631,848.22	\$21,702,584.16
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CO No.	Description	Reason for Change	Amount
1	MBR System Improvements	Enhance the performance of MBR System	\$149,741.00
2	RO System Electrical Modifications & Storm Drain System Material Change	Design & Material Updates	(\$245.00)
3	New Aeration Basin 1 through 3 Excavation	Conflict with Existing Utilities	\$19,998.00
4	Structural and Mechanical Modifications	Pre-Selected Submittals	\$57,450.64
5	Vactor Truck Dump Station Modifications	Conflict with Construction	NTE \$15,000.00
6	EDI/Fine Coarse Bubble Diffuser Equipment	Design Change	\$24,298.00
7	Various Changes – MBR/RO Structural, Site Civil & Headworks SCADA Design Modifications	Design Changes	\$59,167.49

<p>8</p>	<p>Various Changes - Demolition, Piping Realignment, Material Change, and Electric Actuated Valve Voltage Change</p>	<p>Unforeseen Conditions and Value Engineering</p>	<p>\$6,067.00</p>
<p>9</p>	<p>Various Changes - Solids Handling Bldg. Conveyor Capacity Increase, Electrical Yard Vault Cover Changes, Additional Pothole Investigation and Existing Duct Bank Removal, and Yard Utilities</p>	<p>Design Changes, Conflict with Construction, Owner Requested Changes</p>	<p>\$138,531.73</p>
<p>10</p>	<p>MBR Chemical Area Changes & Other Misc. Changes and Inclement Weather Impact Nov-18 to May-19</p>	<p>Owner Requested Changes & Inclement Weather</p>	<p>\$596,031.05</p>
<p>11</p>	<p>Frontier Internet Provider Duct Bank Modifications, 30-inch MBR & 20-inch Plant Effluent Pipeline Elevation and Alignment Modifications, Additional Safety Required Handrail at Retaining Wall and Generator</p>	<p>Design Changes, & Conflict with Construction</p>	<p>\$81,128.29</p>

12	RO-Sulfuric Acid Chemical Piping Material Change, Solids Feed Pump TR/TSH Thermocouple Elements, Solids Handling Bldg. Changes	Design Changes, Owner Requested Changes	\$91,417.26
13	Plant Effluent Chemical Area Changes	Owner Requested Changes	\$404,821.33
14	ADA Compliance Men's – Women's Restroom Modifications & SCE Required Additional 4/0 Ground Cable	Design Changes & SCE Requirements	\$12,311.12
15	Aeration Basin 24" Air Piping Block-outs and Pipe Seals, Modifications to HACH Instrumentation Communications Protocol, MBR Module Lifting Safety Device, RO CIP-Skid Discharge Orifice Plate Addition	Design Changes, Owner Requested Changes	\$79,713.39
16	Pump station at the EQ Basin	Design Changes, Owner Requested Changes	NTE \$667,487.82
WWTP	Budget Amount	Change Orders 1-15	Remaining
Contingency	\$4,000,000.00	\$2,402,919.12	\$1,597,080.88

Recommended Action:

Approval of Change Order No. 17 for the Wastewater Treatment Plant Upgrade/Expansion in the Amount Not to Exceed \$159,422.86.

Attachments:

- A. Change Order No. 17