# Work Authorization 1
# Furnish/Deliver Membrane System and Ancillary Equipment

# Archer Western Construction

A Member of the Walsh Group

September 4, 2024

City of Mansfield
1200 East Broad St.
Mansfield, TX 76063

Re: CMAR – City of Mansfield BEWTP – Phase V

Subject: Work Authorization 1 – Furnish and Deliver Membrane System and Ancillary Equipment

Dear Mr.Price,

Please find the following Proposal for the above referenced project for your review.

This proposal is generated from the Membrane Package proposals received 8/2/24 and submitted per the information contained within the specific Proposal Packages, along with the Plans and Specifications created for the same.

Early membrane procurement was necessary to continue remaining plant expansion design. This first Work Authorization is for $7,281,338.00 and is specifically for Package 1 and associated CMAR fees per Article 8 of the Contract.

Upon your review, Archer Western's Team is readily available to meet with you for detailed discussion and evaluation of the information provided in this proposal. If there are any questions during your initial review, please do not hesitate to contact me at jkendall@walshgroup.com or 817-829-0546.

Sincerely,

Jeff Kendall

Digitally signed by Jeff Kendall
DN: C=US, E=jkendall@walshgroup.com, O=Archer Western, CN=Jeff Kendall
Reason: I am the author of this document
Date: 2024.09.04 11:22:00-05'00'

Jeff Kendall
Project Executive
Archer Western Construction, LLC



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# EXECUTIVE SUMMARY OF WORK AUTHORIZATION-1

# Executive Summary:

The following documents represent the Work Authorization-1 Proposal for the BEWTP – Phase V Project. It consists of Proposal Package 1. This proposal is generated from the Membrane Equipment proposals received 8/2/24 and submitted per the information contained within the specific Proposal Package, along with the Plans and Specifications created for the same.

## Scope of Work

This package is for the furnishing and delivery of a full buildout for a new Membrane System for the Phase V Expansion Project. For Proposal Package 1, Aria Filtra and H2O Nanostone were the two vendors vetted. In a combined workshop of Plummer, City of Mansfield, and AW, Aria was deemed Aria Filtra was deemed to be the best value for Mansfield.

The “all in” price for this Work Authorization-1 Proposal is $7,281338.00 and includes a 3% contingency per the contract. Contingency items will be used at the discretion of the Team and as approved by Mansfield. This proposed cost is based on the Contract Documents identified in Tab 2 and the clarifications, assumptions, and other documents provided in Tab 3. Further details on cost and schedule can be found in Tabs 4 and 5 respectively.

The Work Authorization-1 Proposal includes our current anticipated baseline schedule which will be adjusted as discussed in Work Authorization-2, once we complete evaluations of the electrical gear and equipment lead times.

# CONTRACT DOCUMENTS for WORK AUTHORIZATION-1

## List of Drawings
## List of Specifications

Contract Drawings Specific to this Proposal dated 2/20/24 as follows:

M-400H, M-400C, M-401H, M-401C, M-410H, M-410C, M-411H, M-411C, M-450H, M-450C, PID-001, PID-002, PID-003H, PID-300C, PID-004H, PID-004C, PID-005H, PID-005C, PID-006H, PID-006C, and PID-007.

Contract Specifications Specific to this Proposal as follows:

**Division 00 & 01: General Requirements**

| | |
|---|---|
| 00 21 13 | Instructions to Proposers |
| 00 22 00 | Evaluation Criteria |
| 00 42 00 | Bid Proposal |
| 00 74 00 | Special Conditions |
| 01 33 00 | Supplier's Submittals |
| 01 40 00 | Quality Requirements |
| 01 42 00 | References |
| 01 43 33 | Manufacturers' Field Services |
| 01 60 00 | Product Requirements |
| 01 70 00 | Execution Requirements |
| 01 75 00 | Starting and Adjusting |
| 01 78 23 | Operation and Maintenance Data |
| 01 78 36 | Warranties |
| 01 79 00 | Demonstration and Training |
| 01 80 01 | Membrane System Performance Testing |

**Division 05 - Metals**

| | |
|---|---|
| 05 50 00 | Miscellaneous Metal Fabrications |
| 05 50 01 | Anchorages |

**Division 09 – Finishes**

| | |
|---|---|
| 09 90 00 | Painting and Protective Coatings |

**Division 40: Process Interconnections**

| | |
|---|---|
| 40 00 00 | Common Work Results for Process Interconnections |
| 40 00 01 | Piping System, Basic Materials and Methods |
| 40 05 19 | Piping System, Ductile Iron Pipe |
| 40 05 23 | Piping System, Stainless Steel Pipe |
| 40 05 31.10 | Piping System, PVC and CPVC Pipe |
| 40 05 51 | Common Requirements for Process Valves |

| | |
|---|---|
| 40 05 57.23 | Pneumatic Actuators (Rack and Pinion Type) |
| 40 05 64 | Butterfly Valves |
| 40 05 65 | Check Valves |
| 40 05 91 | Common Control Panel Requirements for Process Equipment |
| 40 05 93 | Common Motor Requirements for Process Equipment |
| 40 05 96 | Common Large Motor Requirements for Process Equipment |

**Division 43 – Process Gas and Liquid Handling, Purification, and Storage Equipment**

| | |
|---|---|
| 43 22 10 | Common Requirements for Pumps |
| 43 22 20 | Mechanical Equipment Testing |
| 43 23 14 | Horizontal Split Case Centrifugal Pumps |
| 43 23 31.17 | Horizontal End Suction Pumps |
| 43 23 31.19 | Vertical Non-Self Priming Multistage In-Line Centrifugal Pumps |
| 43 41 45 | Fiberglass Reinforced Plastic Tanks |

**Division 46 – Water and Wastewater Equipment**

| | |
|---|---|
| 46 33 00 | Chemical Feed Equipment |
| 46 61 33.13 | Microfiltration and Ultrafiltration Membrane Equipment |
| 46 61 73 | Automatic Self-Cleaning Strainers |

**Appendices**

Appendix A in Package 1: Bid Plan Sheets (For Reference Only)
Appendix A on CivCast: General and Supplementary Conditions
Appendix B on CivCast: AW's Sample Contract Agreement
Appendix C on Civcast: Phase IV Plan Sheets

**Addenda**

Addendum 1 on 7/10/24
Addendum 2 on 7/19/24
Addendum 3 on 8/2/24

# VARIATIONS, SUBTITUTIONS, and CLARIFICATIONS

**Contract Document Clarifications and Assumptions for Work Authorization-1**

Clarifications:

| # | Section | Paragraph | Specification Statement | Comment |
|---|---|---|---|---|
| 1 | 40 05 23 | 3.1.F | Bolting: Type 316 Stainless Steel, ASTM A320, Grade B8M hex head bolts and ASTM A194 Grade 8M washers | The MSS is providing 18-8 Stainless Steel bolts, washer and nuts |
| 2 | 40 05 51 | 2.2.K | Fasteners for flanged valves shall be as follows: Comply with pipe joining material requirements of Division 40 Section 40 05 01, “Piping Systems, Basic Materials and Methods” | The MSS is providing 18-8 Stainless Steel bolts, washer and nuts |
| 3 | 40 05 51 | 2.5.E.2 | Manufacturers | The MSS is providing Apollo Series 76F two piece stainless steel ball valves. These valves meet the NSF-61 requirements of the specification |
| 4 | 40 05 57.53 | 1.3A.4 | All fasteners and hardware shall be Type 316 stainless steel. | The MSS is providing 18-8 stainless steel bolts, washer and nuts. |
| 5 | 40 05 57.53 | 2.2.C.1.a | Open/Close actuators shall be provided with NEMA-4 rated electric solenoid valves as required by the MF/UF MS Supplier. | MSS has standardized on using IP65 rated solenoid valves. Please allow the MSS's standard. |

| | | | | |
|---|---|---|---|---|
| 6 | 40 05 57.53 | 1.1.A.2 | For skid-mounted systems the MS Supplier shall furnish and install on-skid satinless steel or plastic air tubing with Swagelok fittings, connections, taps, pressure switches, electrical devices, wiring, pressure gages and terminations necessary for a complete system and shall also install the valves with valve actuators. Each actuator shall also have an isolation stainless steel ball valve provided at each branch air line to the actuator and a filter/pressure regulator mounted on the inlet to each actuator. | The MSS is providing John Guest Push-In fittings for pneumatic tubing connections. The MSS is providing Parker MVV309-4 Nylon Body Push-In connection valves for this application. The existing installed control air pressure regulators will be used to control the air pressure to the valves. |
| 7 | 40 05 91 | 2.1.I | The manufacturer shall produce and install on each panel, an Arc Flash Warning Label listing the various Flash Hazard Protection Boundaries, calculated from NFPA 70E, Annexes, as listed below: | This is calculated on site by the site electrician.Per NFPA the MSS is not required to calculate this. Please place the responsibility for this with the "Contractor". |
| 8 | 40 05 57.53 | 2.4.A | All actuators shall include a filter/regulator unit mounted on the air supply to the actuator. | MSS utilizes a common air supply pressure regulator in the main air piping and also utiliizes a particulate/coalescing air filter upstream of each solenoid valve manifold that provides control air for valve actuation. Please allow the MSS's standard. |

Items Excluded:

- Sales tax

Allowance/Contingency Items:

3% Contingency included as defined under Tab 4

# COST OF WORK BREAKDOWN

Tab 4 – Work Authorization 1 – Furnish and Deliver Membrane System and Ancillary Equipment – Summary of Costs

| Bid Item | Prosper | Description | Price |
|---|---|---|---|
| **1** | Full Buildout of Membrane System Capacity | Base Bid for 33.41 MGD Aria Filtra Full Buildout of Membrane System. Also included: Performance, Payment, and Maintenance Bonds | $6,470,000.00 |
| | | **Subtotal (Cost of Work)** | $6,470,000.00 |
| | | CMAR Fee – 8% | $517,600.00 |
| | | Bonds & Insurance | $99,638.00 |
| | | **Total** | **$7,087,238.00** |
| | | CMAR Contingency Allowance – 3% of Cost of Work | $194,100 |
| | | **Total Cost w/ Contingency** | **$7,281,338.00** |

# PROGRESS SCHEDULE

TAB 5 – Work Authorization 1 – Membrane Equipment Milestone Schedule

| Item | Milestone | Anticipated Delivery |
|---|---|---|
| **1** | First Submittal | 5-6 Weeks from Purchase Order |
| **2** | Second Submittal | 7-8 Weeks from First Submittal Approval |
| **3** | Equipment Ready to Ship | 36-40 Weeks after Release to Manufacturer (sent upon approval of second submittal) |
| **4** | Commissioning Completed | 9-12 Weeks after Installation Completed |
| **5** | Acceptance Testing Completed | 10-12 Weeks after Commissioning Completed |