ADDENDUM NO. TWO (2)

to the

CONTRACT DOCUMENTS, TECHNICAL SPECIFICATIONS, AND CONSTRUCTION DRAWINGS

for construction of

WASTEWATER TREATMENT PLANT EXPANSION TO 1.5 MGD

for

WILBARGER CREEK MUNICIPAL UTILITY DISTRICT NO. 2

TRAVIS COUNTY, TEXAS

November 10, 2026

Addendum No. Two (2) covers the following changes to the contract documents, technical specifications, and construction drawings:

CONTRACT DOCUMENTS

1. BID FORM

Remove and replace with the attached and revised Bid Form, notable revisions include:

a. Addition of Bid Item No. 13 to break out sludge removal as its own bid item.
b. Updated the "not to exceed" cost in Bid Item No. 12 to $133.240.00.
c. Updated the "not to exceed" cost in Bid Item No. 9 to $80,135.00.

2. INVITATION TO BID

Remove and replace with the attached and revised Invitation to Bid, notable revisions include:

a. Revised the bid opening time to 3:00 p.m. on November 18th, 2026.

3. INSTRUCTION TO BIDDERS

Remove and replace with the attached and revised Instruction to Bidders, notable revisions include:

a. Revised the bid opening time to 3:00 p.m. on November 18th, 2026.

TECHNICAL SPECIFICATIONS

1. SPECIFICATION 11340 – CLOTH-MEDIA DISK FILTER

Remove and replace with the attached and revised Specification 11340 – Cloth-Media Disk Filter. Notable revisions include:

a. Revised Part 3.4.B for Manufacturer's on-site services.

2. SPECIFICATION 13300A – PANEL SCHEDULE

Remove and replace with the attached and revised Specification 13300A – Panel Schedule. Notable revisions include:

a. Revised Specification 13300A to include sludge control panel.

3. SPECIFICATION 13303 – TRAINING

Remove and replace with the attached and revised Specification 13303 – Training. Notable revisions include:

a. Revised Specification 13303 to revise training summary requirements.

4. SPECIFICATION 13311 – PLC HARDWARE AND SOFTWARE

Remove and replace with the attached and revised Specification 13311 – PLC Hardware and Software. Notable revisions include:

a. Revised Specification 13311 to include Control Panels USA under acceptable integrators.

5. SPECIFICATION 13340 – Instruments

Remove and replace with the attached and revised Specification 13340 – Instruments. Notable revisions include:

a. Revised Specification 13340 to update Thermal Dispersion Mass Flowmeter section from 2.1 to 2.2.

6. SPECIFICATION 15101 – BUTTERFLY VALVES

Remove and replace with the attached and revised Specification 15101 – Butterfly Valves. Notable revisions include:

a. Revised Specification 15101 to remove Section 2.4.B and Section 2.5.B

7. SPECIFICATION 15102 – GATE VALVES

Remove and replace with the attached and revised Specification 15102 – Gate Valves. Notable revisions include:

a. Revised gate table for KGV-03-001 to remove motor.

CONSTRUCTION DRAWINGS

1. SHEET 4-M-1 – PEAK SHAVING BASIN DEMOLITION PLAN

Remove and replace with the attached and revised Sheet 4-M-1 – Peak Shaving Basin Demolition Plan. Notable revisions include:

a. Revised Sheet 4-M-1 to include Note 2 about required degritting and cleaning of the peak shaving basin.

2. SHEET 0-E-6 – CONDUIT SCHEDULE – SHEET 6 OF 6

Remove and replace with the attached and revised Sheet 0-E-6 – Conduit Schedule – Sheet 6 of 6. Notable revisions include:

a. Revised instrumentation conduit for eyewash station EWS-14B-001 (conduit 14-I-001)

3. SHEET 14-E-6 – DEWATERING BUILDING ELECTRICAL ROOM INSTRUMENTATION PLAN

Remove and replace with the attached and revised Sheet 14-E-6 – Dewatering Building Electrical Room Instrumentation Plan. Notable revisions include:

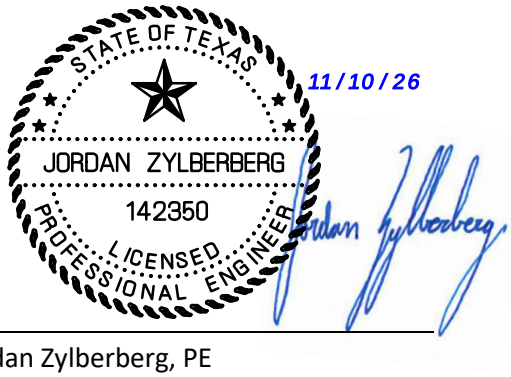
a. Revised callouts to show instrumentation conduit for eyewash station EWS-14B-001 (conduit 14-I-001)

ATTACHMENTS

1. ATTACHMENTS

Remove and replace with the attached and revised Attachments. Notable revisions include:

a. Revised Attachment 1 to include an updated proposal from the equipment vendor.
b. Revised Attachment 2 to include an updated proposal from the equipment vendor.
c. Revised Attachment 3 to include an updated proposal from the equipment vendor.
d. Revised Attachment 4 to include an updated proposal from the equipment vendor.
e. Revised Attachment 5 to include an updated proposal from the equipment vendor.
f. Revised Attachment 6 to include an updated proposal from the equipment vendor.



Jordan Zylberberg, PE
Quiddity Engineering, LLC
TBPE Firm No. F-23290

END OF ADDENDUM NO. 2

BID FORM

Bidding Firm: _____

Address: _____

City, State, Zip: _____

Date: _____

Telephone: _____

Owner: Wilbarger Creek Municipal Utility District No. 2

Address: c/o Armbrust & Brown, P.L.L.C.
100 Congress Ave., Suite 1300
Austin, Texas 78701
Attention: Mr. John Bartram
Telephone: (512) 435-2300

Bid Location: Quiddity Engineering, LLC
912 South Capital of Texas HWY, Suite 300
Austin, Texas 78746
Attention: Mr. Jordan Zylberberg, P.E.
Telephone: (346) 231-0867

Project: **WASTEWATER TREATMENT PLANT EXPANSION TO 1.5 MGD**

The undersigned bidder has carefully examined the Contract Documents and Technical Specifications, drawings and any other addenda or other information prepared for the Project (collectively, the "Bidding Documents") for the work herein above described and referred to in the Invitation to Bid (the "Work") and has carefully examined the site of the Work and will provide all necessary labor, superintendence, machinery, equipment, tools, materials, services and other means of construction to complete all the Work upon which he bids, as called for in Bidding Documents, and in the manner prescribed therein and according to the requirements of the Engineer as therein set forth for the amounts below. The Bidding Documents I have examined include the Project specifications and drawings for the subject project and addenda listed as follows:

1. Contract Documents and Technical Specifications dated July 2026

2. Drawings including 230 sheets dated July 2026

3. Addenda as acknowledged below:

No.	Date	No.	Date

In submitting this bid, I agree:

(1) To hold my bid open until **60 calendar days** following the bid opening date set forth in the Bidding Documents.

(2) To accept the provisions of the instructions to bidders regarding the disposition of the bid security.

(3) To enter into a contract with the Owner by executing an agreement on the basis of this bid and to furnish a performance bond, a payment bond, and a certificate of insurance and endorsements, as required by the Bidding Documents, all within 14 calendar days of receipt of notice award from the Engineer.

(4) To accomplish the work in accord with the Bidding Documents by furnishing all materials, equipment, and labor for proper construction and completion of the work.

(5) To have the work substantially completed within _____ **calendar days** from receipt of written notice to proceed, and to achieve final completion within **60 calendar days** after the date the work is substantially completed.

The following items shall include all the labor, equipment, and materials necessary for construction of Wastewater Treatment Plant Expansion to 1.5 MGD as shown on and described in the Bidding Documents.

Item No.	Description of Item with Unit Bid Price in Written Words	Unit	Approx. Quantity	Unit Price	Total Amount
1.	Bonds, insurance, and permits for all work associated with base bid items. Complete as specified for the sum of: @_____ _____ Per Lump Sum	L.S.	1	$_____	$_____
2.	Move-in and set up for all work associated with the Project. Complete as specified for the sum of: @ _____ _____ Per Lump Sum	L.S.	1	$_____	$ _____
3.	Allowance to modify the proposed improvements as described in the Bidding Documents due to unforeseen conditions not determinable at the time of bidding, complete as specified and approved by the Engineer and Owner on an as needed basis for the sum of: @ Two Hundred Thousand Dollars and Zero Cents _____ Per Lump Sum	L.S.	1	$ 200,000.00	$200,000.00

Item No.	Description of Item with Unit Bid Price in Written Words	Unit	Approx. Quantity	Unit Price	Total Amount

4. Construction of the wastewater treatment plant expansion work including but not limited to: lift station (excluding items noted in Bid Item No. 11), elevated headworks (excluding items noted in Bid Item No. 7), peak shaving basin and pump station (excluding items noted in Bid Item No. 8), rapid mix basin, aeration basins, clarifier, tertiary filters (excluding items noted in Bid Item No. 9), chlorine contact basins, sodium hypochlorite system, sodium bisulfite system, aluminum sulfate system, sludge holding tank, blowers (excluding items noted in Bid Item No. 12), electrical control building, non-potable water pump station, dewatering facility (excluding items noted in Bid Item No. 10), gates, valves, piping, fittings, protective coatings, electrical, lighting, controls, duct bank and pull boxes, site restoration, access road, sidewalks, grading, storm/drain facilities, temporary facilities (including bypass pumping), programming, construction materials testing, and all else specified on the construction drawings and contract documents necessary to construct, tie-in and make for a complete and operational system. Complete as specified for the sum of:

@_____

_____ L.S. 1 $_____ $_____

Per Lump Sum

5. Installation, maintenance, and record keeping of a Storm Water Pollution Prevention Plan (SWPPP), compete as specified for the sum of:

@_____

_____ L.S. 1 $_____ $_____

Per Lump Sum

6. Provision of a trench safety system for piping construction, complete as specified for the sum of:

@_____

_____ L.F. 1670 $_____ $_____

Per Linear Foot

7. Purchase and delivery of mechanical screen, washer compactor, and control panel as outlined in the scope of work included in Attachment No. 2 in the specifications for the sum of (not to exceed $425,760.00)

@_____

_____ L.S. 1 $_____ $_____

Per Lump Sum

8. Purchase and delivery of peak shaving basin pump as outlined in the scope of work included in Attachment No. 4 in the specifications for the sum of (not to exceed $46,995.00)

@_____

_____ L.S. 1 $_____ $_____

Per Lump Sum

Item No.	Description of Item with Unit Bid Price in Written Words	Unit	Approx. Quantity	Unit Price	Total Amount

9. Purchase and delivery of cloth media disks, motor actuated ball valve, manifolds, piping, and other accessories, hardware, and appurtenances, as well as on site inspection and start-up, as outlined in the scope of work included in Attachment No. 1 in the specifications for the sum of (not to exceed $80,135.00)

@_____

_____ L.S. 1 $_____ $_____

Per Lump Sum

10. Purchase and delivery of double disc diaphragm pumps, volute press, horizontal and inclined screw conveyor, polymer blending units, valves, control panels, press and conveyor supports, and all other accessories, hardware, and appurtenances as outlined in the scope of work included in Attachment No. 3 in the specifications for the sum of (not to exceed $1,705,000.00)

@_____

_____ L.S. 1 $_____ $_____

Per Lump Sum

11. Purchase and delivery of submersible lift station pumps as outlined in the scope of work included in Attachment No. 5 in the specifications for the sum of (not to exceed $167,238.10)

@_____

_____ L.S. 1 $_____ $_____

Per Lump Sum

12. Purchase and delivery of multi-stage centrifugal blower as outlined in the scope of work included in Attachment No. 6 in the specifications for the sum of (not to exceed $133,240.00)

@_____

_____ L.S. 1 $_____ $_____

Per Lump Sum

13. *Removal and disposal of bulk liquid, grit, debris, rags, solids, and semi solid materials from existing the sludge holding tank, peak shaving basin, and all else associated, complete as specified for the sum of:

@_____

_____ C.Y. 225 $_____ $_____

Per Cubic Yard

*Depth of material to be removed must be verified by the Engineer prior to removal activities beginning. Quantities will be confirmed by measurement of material in the basin and the basin dimensions in lieu of truck load tickets.

TOTAL BASE BID $_____

MAJOR EQUIPMENT MANUFACTURERS

Base Bid. Only the acceptable manufacturers listed shall be used in determining the BASE BID. **The bidder must indicate which manufacturer was used in the BASE BID by circling the manufacturers name and/or filling in the name on the substitution list. If a Substitution is given, an add or deduct amount must be filled in. Failure to do so may disqualify the Bid.**

Substitutions. Any manufacturer not used in the base bid tabulation, including those not listed as an acceptable manufacturer, may be listed as a substitution. The cost of any modifications required to use the substituted equipment shall be included in the equipment cost on page A-11.

The Bidder understands that after a contract is awarded, the Owner may select items of any other manufacturer listed in the following tabulation. If awarded the contract, the Bidder agrees to furnish and install any substitutions listed for the price indicated. The BASE BID will then be adjusted accordingly.

If a contract includes items of equipment of any manufacturer which may require any modification or deviation from the Bidding Documents, the undersigned agrees to prepare and submit detailed drawings to the Engineer showing all modifications in structures, piping, electrical and mechanical work, required to adapt the Bidding Documents to the equipment selected. The Bidder further understands that the Engineer will review said detailed drawings of modifications and either approve them or indicate thereon changes necessary to comply with the project requirements. Detailed drawings of modifications which are not approved will be revised then resubmitted to the engineer. The prices listed in the following tabulation are "installed" prices and take into consideration any of the changes that may be required**.**

LIST OF ACCEPTABLE BASE/SUPPLEMENTARY BID EQUIPMENT MANUFACTURERS

Description	Manufacturer
Wide Band Diffusers	EDI Sanitaire
Fine Bubble Diffusers	EDI Sanitaire
Slide Gate	Fontaine Hydro Gate Waterman
Air Lift Pumps	EDI Sanitaire
Clarifier	Evoqua Walker
Self-Priming Centrifugal Pumps (NPW Pump Station)	Gorman Rupp Griswold ITT Goulds
Peristaltic Pumps	Blue-White Waston-Marlow

LIST OF BASE/ALTERNATE BID EQUIPMENT MANUFACTURERS AND SUBSTITUTIONS

Equipment Item	Base/Alternate Bid Manufacturer	Manufacturer	Substitutions Add (Deduct) from Base/Alternate Bid
Wide Band Diffusers			
Fine Bubble Diffusers			
Slide Gate			
Air Lift Pumps			
Clarifier			
Self-Priming Centrifugal Pumps (NPW Pump Station)			
Peristaltic Pumps			

LIST OF SUBCONTRACTORS

1. Electrical _____
2. Coatings _____
3. Earthwork/Sitework _____
4. Masonry _____
5. Other _____

As bidder I acknowledge that:

1. The Owner reserves the right to reject any and all bids, and to waive any minor informality in any Bid of solicitation procedure. (A minor informality is one that does not affect the competitiveness of the bidders.)

2. The award of the Contract may be made on the BASE BID only or any combination of the BASE BID, ALTERNATIVE ITEMS, SUBCONTRACTORS, and selected SUBSTITUTIONS.

3. I have reviewed and understood all the required Bidding Documents needed to constitute a complete bid, and that to be considered a complete and valid bid, I must submit all items outlined in this bid form in a sealed envelope on or before the designated bid time and date.

4. The contract price may be increased or decreased, or the contract time reduced or extended to compensate for changes in the work as ordered by the Engineer and provided for in the Bidding Documents.

5. The requirements of Subchapter J, Chapter 552, Government Code, may apply to the contract and the bidder agrees that the contract will provide that it may be terminated if the Contractor knowingly or intentionally fails to comply with a requirement of that subchapter.

Furthermore, as bidder I certify that:

1. I am the only person or party associated with or having an interest in this bid and it is made without collusion involving any other person, partnership or corporation.

2. The amounts given in this bid have been carefully checked and are submitted as correct and final. Attached as bid security is either a certified or cashier's check, payable to Owner, in the amount of at least two percent (2%) of the maximum total bid amount or a bid bond, payable to Owner, in the amount of at least five percent (5%) of the maximum total bid amount.

3. I understand that the bid security accompanying this bid shall be returned to the undersigned unless, in case of the acceptance of this bid the undersigned should fail to enter into a written contract with the Owner and provide the performance and payment bonds, insurance certificates and endorsements, and any other items required by the Bidding Documents. In the event the undersigned should fail to enter into a written contract and provide all performance and payment bonds, insurance certificates and endorsements, and other required items within 14 calendar days after the Engineer has given written notice of the award of the bid to the undersigned, it is understood and agreed that the bid security shall be forfeited to the Owner and shall be considered as payment for damages due to delay and other inconveniences suffered by the Owner as a result of such failure on the part of the undersigned.

4. In the event notice of award of the bid is provided to the undersigned, the undersigned agrees to return a properly executed contract, performance and payment bonds, insurance certificates and endorsements, and any other items required by the Bidding Documents within 15 days after receipt of the notice of award of the bid.

Bidder's
Signature: _____

Title: _____ SEAL

Witness: _____

END OF SECTION

INVITATION TO BID

Sealed bids in duplicate addressed to Wilbarger Creek Municipal Utility District No. 2 ("Owner") will be received in the offices of Quiddity Engineering LLC, 912 South Capital of Texas Hwy, Suite 300, Austin, Texas 78746, until 3:00 p.m., Wednesday, November 18th, 2026, and then publicly opened and read via teleconference call for furnishing all plant, labor, material and equipment and performing all work required for the construction of the following (the "Project"):

WASTEWATER TREATMENT PLANT EXPANSION TO 1.5 MGD

The site where the Project will be constructed is located in Travis County, Texas, within the City of Manor's extra-territorial jurisdiction (ETJ), approximately 0.14 miles EAST of the intersection of Old Highway 20 and FM 973 (MAPSCO Page 530 S) at the following address: 12217 Old Highway 20, Manor, Texas 78653

All bidders must shall submit either a certified or cashier's check in the amount of at least two percent (2%) of the maximum total bid amount or a bid bond in the amount of at least five percent (5%) of the maximum total bid amount. The certified or cashier's check or bid bond must be payable to the Owner.

Plans, specifications, and bidding documents are available at www.civcastusa.com.

ATTENTION: Pursuant to Texas Government Code § 2252.908, unless you are a publicly traded entity or a wholly owned subsidiary of same, you must be able to provide Owner with printed and signed copies of a completed disclosure of interested parties form (Form 1295) and a certificate of filing at the time the bid is submitted to Owner. Failure to do so will result in the Owner's inability to execute the contract. To complete the disclosure of interest parties form, or for further information, please visit the Texas Ethics Commission's website at https://www.ethics.state.tx.us.

The requirements of Subchapter J, Chapter 552, Government Code, may apply to the contract for the Project and all bidders agree that the contract for the Project will provide that it can be terminated if the Contractor knowingly or intentionally fails to comply with a requirement of that subchapter.

There will be a pre-bid conference held via teleconference call on Wednesday, October 7th, 2026, at 10:00 a.m. Details for the teleconference call-in information will be provided to all plan holders on Wednesday, September 30th, 2026. **Attendance is not mandatory.**

The Owner reserves the right to reject any or all bids and waive any or all irregularities. No bid may be withdrawn until the expiration of **60 calendar days** from the date bids are open.

END OF SECTION

INSTRUCTION TO BIDDERS

1.0 INVITATION

a. The Work. Bids are invited on a general contract for all materials, equipment, and labor required for the construction of: **Wastewater Treatment Plant Expansion to 1.5 MGD.**

b. The Owner.

Wilbarger Municipal Utility District No. 2
c/o Armbrust & Brown, PLLC
100 Congress Ave, Suite 1300
Austin, Texas 78701
Attention: Mr. John Bartram
Telephone: (512) 435-2300

c. The Operator.

Crossroads Utility Services, LLC
2601 Forest Creek Drive
Round Rock, Texas 78665
Attention: Mr. Dennis Hendrix
Telephone: (512) 246-1400

d. The Engineer.

Quiddity Engineering, LLC
912 South Capital of Texas Hwy, Suite 300
Austin, Texas 78746
Attention: Mr. Jordan Zylberberg, P.E.
Telephone: (346) 231-0867

e. The Bookkeeper.

Bott & Douthitt, PLLC
P.O. Box 2445
Round Rock, Texas 78680
Attention: Ms. Mary Bott
Telephone: (512) 733-0700

2.0 RECEIPT OF BIDS

A. Sealed bids, in duplicate, will be received until 3:00 p.m., Wednesday, November 18th, 2026 in the offices of Quiddity Engineering, LLC, 912 South Capital of Texas Hwy, Suite 300, Austin, Texas 78746.

B. Bids received after this time will not be opened and will be delivered to the Owner for its consideration.

C. There will be a pre-bid conference via teleconference call at 10:00 a.m., Wednesday, October 7th, 2026. Details for the teleconference call-in information will be provided to all plan holders on Wednesday, September 30th, 2026. It will be each bidder's responsibility to ensure they receive the call-in details prior to the pre-bid conference. **Attendance is not mandatory**.

D. Bid opening will be held immediately after the time for receipt of bids has expired.

E. Bids will be opened publicly and read aloud via teleconference call. All interested parties are invited to attend. Details for the teleconference call-in information will be provided to all plan holders on Wednesday, November 11th, 2026, via Civcast. It will be each bidder's responsibility to ensure they receive the call-in details prior to the bid opening.

F. All bidders shall include a contract duration time on the Bid Form to be considered.

G. **ATTENTION: Pursuant to Texas Government Code § 2252.908, unless you are a publicly traded entity or a wholly owned subsidiary of same, you must be able to provide the Owner with printed and signed copies of a completed disclosure of interested parties form (Form 1295) and a certificate of filing at the time the bid is submitted to the Owner. Failure to do so will result in the Owner's inability to execute the contract. To complete the disclosure of interest parties form, or for further information, please visit the Texas Ethics Commission's website at https://www.ethics.state.tx.us.**

3.0 BIDDING DOCUMENTS

A. Bidding documents include all documents available during the bidding period, including, without limitation, the instruction to bidders, invitation to bid, standard form of contract, general and special conditions of the contract, technical specifications, drawings and addenda, if any.

B. Bidders may download copies of the bidding documents at www.civcastusa.com. Bidders must register on this website in order to view and/or download, plans and any attachments for this project. There is NO charge to view or download documents.

C. Bidding documents may be examined by appointment at the office of the Engineer.

4.0 SEPARATED CONTRACT PROVISIONS

A. The selected bidder must abide by all state and local laws regulating sales tax exemption for work being performed for tax exempt entities. Provisions are provided in Section 5.03 of the Special Conditions.

B. is the selected bidder will be responsible for obtaining all permits required by the work at no additional cost to the Owner, except as may specifically be exempted in the Bidding Documents.

5.0 EXAMINATION

A. Bidder shall carefully examine the bidding documents and the site to determine the actual conditions under which work will be done.

B. Data in the Bidding Documents pertaining to existing conditions is for convenience only and does not supplant obtaining firsthand information at the site.

C. Adjusting payments will not be authorized for work that could have been foreseen by a careful examination of the site.

D. Submission of a bid constitutes acceptance by the bidder of existing site conditions as a part of the requirements of this work.

6.0 COMPLETION TIME

A. Bidder shall fill in the blank on the bid form for the number of calendar days for substantial completion of the work after receipt of the written Notice to Proceed. Final Completion of the work shall be achieved within **60 calendar days** from the date of Substantial Completion.

B. Submission of a bid constitutes acceptance by the bidder of the completion time as a part of the requirements of this work.

7.0 QUESTIONS

A. In ample time to permit consideration before reply, submit questions about Bidding Documents to the Engineer. All questions must be submitted electronically on www.civcastusa.com. **Questions will not be considered or answered after Friday, November 13th at 12:00 p.m., five (5) calendar days prior to bidding.**

B. Necessary replies will be issued to bidders of record as addenda, which become a part of the Bidding Documents. Oral instructions do not form a part of the Bidding Documents.

C. Bidders should contact the Engineer not less than 72 hours before bid opening to secure any addenda that may affect bidding.

8.0 SUBMITTAL

A. Submit bid and other required data in an opaque, sealed envelope. If submitted by mail, enclose bid envelope in another envelope addressed for mailing. Plainly identify the sealed envelope with the following information:

Do not open before 3:00 p.m., Wednesday, November 18th, 2026
Bid for: **Construction of Wastewater Treatment Plant Expansion to 1.5 MGD**
Owner: **Wilbarger Creek Municipal Utility District No. 2**
Bidder: _____

B. Submit bid on the bid form provided. Fill in all blanks. If no amount is to be included, insert three zeros in the space. Include all unit cost items and all alternatives shown on the bid form; failure to comply may be cause for rejections. No segregated bids or assignments will be considered.

C. Documents required to be submitted as part of an official bid include: Bid Form, Bid Security, and Certificate of Interested Parties Form 1295.

D. Do not alter the bid form with written memoranda or qualifications. Any explanation, alteration, or other statements proposed by the bidder must be written separately, signed independently, and included in the bid envelope. Bids may not be modified after submittal.

E. Sign in longhand below the typed name of the person authorized to bind the bidder to a contract. When the bidder is a corporation, the bid must be signed with the legal name of the corporation followed by the name of the State of Incorporation and the legal signature of a person authorized to bind the corporation to a contract.

F. ATTENTION: Pursuant to Texas Government Code § 2252.908, unless you are a publicly traded entity or a wholly owned subsidiary of same, you must be able to provide Owner with printed and signed copies of a completed disclosure of interested parties form (Form 1295) and a certificate of filing at the time the bid is submitted to Owner. Failure to do so will result in the Owner's inability to execute the contract. To complete the disclosure of interest parties form, or for further information, please visit the Texas Ethics Commission's website at https://www.ethics.state.tx.us.

All bidders to include the Owner's full name in box 2 of the TEC form, "Wilbarger Creek Municipal Utility District No. 2".

All bidders to enter "0A651-0021-02" into box 3 of the TEC form.

9.0 BID SECURITY

A. The bidder shall submit either a certified or cashier's check in the amount of at least two percent (2%) of the maximum total bid amount or a bid bond in the amount of at least five percent (5%) of the maximum total bid amount. The certified or cashier's check or bid bond must be payable to the Owner.

B. The bid security will be forfeited to the Owner by the bidder and shall be considered as payment for damages due to delay and other inconveniences suffered by the Owner as a result of such failure on the part of the bidder if the bidder fails to execute and deliver a contract, bonds, and insurance certificates and endorsements, as required.

10.0 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

A. Bidder must be capable of executing a satisfactory performance bond and payment bond for one hundred percent (100%) of the contract sum in accord with the Contract Documents.

11.0 WITHDRAWAL

A. Bids may be withdrawn any time before bid opening but may not be resubmitted.

B. Bids may not be withdrawn or modified after bid opening time unless the award of the contract has been delayed more than **60 calendar days**.

12.0 QUALIFICATIONS OF BIDDERS

A. The Owner may make any investigations deemed necessary to determine the bidder's ability to perform the work. When requested, bidders must furnish such information and data necessary for this purpose.

B. The Owner reserves the right to reject any bid if evidence submitted by or investigation of the bidder indicate that the bidder is not properly qualified in the opinion of the Owner, to complete the work satisfactorily.

C. The Contractor must satisfy all insurance, financial, and bonding requirements of the Owner.

D. The Contractor (company or personnel) must have a least five (5) years active experience in the installation of the exact products specified in this project.

E. The Owner may make any investigations deemed necessary to determine the bidder's ability to perform the work, including the bidder's ability to perform work including the contractor's OSHA safety record. When requested, furnish such information and data necessary for this purpose.

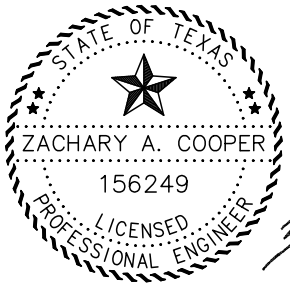
13.0 AWARD OF CONTRACT

A. The Owner is not obligated to accept the lowest bid or any bid. The Owner reserves the right to reject any or all bids and to waive any informalities in bids or in bidding. The Owner may accept any bid deemed advantageous. The contract award may include full consideration of unit prices. alternates, subcontractors, and time of completion.

14.0 RETURN OF SIGNED CONTRACTS

A. By submitting a bid, each bidder agrees to return a signed contract with proper bonds, insurance certificates and endorsements, and any other items required under the Bidding Documents within **14 calendar days** after the Engineer has provided notice of award to the bidder. Should the bidder fail to return a properly executed contracts with the proper bonds, insurance certificates and endorsements, and any other items required under the Bidding Documents within **14 calendar days**, the Engineer may disqualify that bidder and recommend that the Owner enter into a contract with another bidder.

END OF SECTION



11/9/2026

SECTION 11340
CLOTH-MEDIA DISK FILTER

PART 1 – GENERAL

1.1 SCOPE

A. This section includes provision of all labor, materials, and equipment to furnish and install automatically backwashing cloth media filtration equipment, and accessories, including training, start-up and field demonstration, for a complete and operable system.

B. Furnish, install, startup, and field test automatic backwashing, cloth media disk filtration system(s) and all appurtenances as shown on the Drawings and specified herein and as noted in Attachment No. 1.

C. Furnish all labor, materials, equipment, and incidentals required for complete installation, proper operation, and successful field testing.

1.2 RELATED SECTIONS

A. All sections of the contract documents and technical specifications are related sections. Failure to review contract documents and technical specifications does not relieve the Contractor, or Supplier, of complying with the requirements therein.

1.3 REFERENCES

A. Referenced Standards:
1. American Gear Manufacturers Association (AGMA)
2. American National Standards Institute (ANSI)
3. American Welding Society (AWS)
4. Anti-Friction Bearing Manufacturer's Association (AFBMA)
5. ASTM International (ASTM)
6. Hydraulic Institute (HI)
7. Institute of Electrical and Electronic Engineers (IEEE)
8. Manufacturers Standardization Society (MSS)
9. National Electric Code (NEC)
10. National Electrical Manufacturers Association (NEMA)
11. National Fire Protection Association (NFPA)
12. Occupational Safety and Health Administration (OSHA)

1.4 SUBMITTALS

A. Submit shop drawings, product data, samples, and descriptive literature as specified in Sections 01300 and 01340. Include the following arranged to facilitate submittal review.

1. Cut sheets, construction materials, dimensions, weights, shop coatings, and scope of supply, including part numbers, quantity, location, and manufacturer listed in table format.
2. Dimensioned drawings showing all required clearances, control valves, and piping connections.
3. Product data on valves, motorized valve actuators, gaskets, motors, and flexible couplings.

B. Provide the following certifications:

1. The final installation is as specified here in, as intended by the Manufacturer and suitable for continued operation by Owner's personnel.
2. Field test results are satisfactory.
3. The manufacturer can provide a complete stock of spare parts within 48 hours of request.

C. Submit updated Operation and Maintenance (O&M) manuals specifically for this installation. Include all cut sheets, drawings, equipment lists, descriptions, and materials, necessary to instruct the Owner's personnel. Include signed start-up and field-testing reports.

1.5 QUALITY ASSURANCE

A. A single Manufacturer shall provide and warrant all herein specified equipment, components, and subcomponents. Subcomponent obtained from the OEM during fabrication of the Manufacturer's equipment shall be considered as a product of the Manufacture and warranted by the Manufacturer.

B. Equipment shall be designed and rated for their intended service environments and area classifications.

C. Use only new materials matching manufacturer standard parts.

D. All welding shall be done at the Manufacturer's factory. Field welding shall not be permitted without the Engineer's express written approval.

E. Coatings shall be factory-applied. Field coating is not acceptable other than touchup coating.

F. Manufacturer's on-site services shall be provided via one or more qualified full-time factory employee(s) or service technician(s) with extensive experience in on-site installation and testing of equipment similar to that specified herein.

1.6 WARRANTY

A. For a period of 12 months from installation and startup, the Manufacturer shall warrant that the equipment shall be free of defects in material and workmanship. The Manufacturer shall repair or replace any defective equipment or components. The Owner shall not be responsible for any related costs, such as removal, shipping, or reinstallation. Contractor shall coordinate delivery to ensure equipment is installed and start up occurs no more than 6 months after delivery.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver and store equipment as per manufacturer's recommendation at a minimum.

B. Crate and protect all equipment against damage during shipment. Exposed flanges shall be covered and sealed with shrink-wrap to prevent the entrance of moisture. Take proper measures to prevent rust and corrosion.

C. Ship packaged systems intact to the extent feasible.

D. Accept units on-site. Inspect for damage upon delivery.

E. Store equipment off the ground in a secured, enclosed shelter where it is protected from the public. Store and maintain equipment in accordance with Manufacturer's recommendations.

F. Do not remove shipping blocks, plugs, or caps installed to protect the equipment during shipment until the equipment is installed and permanent connections are made.

PART 2 - PRODUCTS

2.1 GENERAL

A. The filter equipment shall be designed specifically for installation in the concrete basin shown in the construction drawings.

B. Each unit will include:
1. Cloth Media Disks
2. Automatic Backwash and Solids Removal System
3. Automatic Valves

C. All motors, pumps, and bearings shall be designed for continuous duty and long operating life in a high humidity atmosphere.

2.2 PERFORMANCE REQUIREMENTS

Table 1: Filter Performance Requirements. Proposed disks will be installed at existing filters **DF-07-101** and **DF-07-201**.

Design Conditions (Per Filter Basin)	Units	Existing	Proposed
Location		Tertiary Filter Basin	Tertiary Filter Basin
Average Daily Flow	MGD	1.0	1.5
Peak Two Hour Flow	MGD	2.0	3.0
Minimum Filtration Area	S.F.	215.3	322.9
Total No. of Filtration Disks	-	4	6
Max Flux Rate through Effective Area	gpm/sf	6.5	6.5
Minimum Backwash Flux Rate	gpm/sf	6	6
Average Influent TSS (at ADF)	mg/l	10	10
Influent TSS (at ADF)	mg/l	15	15
Effluent TSS	mg/l	<5	<5

Effluent Turbidity	NTU	<3	<3

2.3 ACCEPTABLE MANUFACTURERS

A. Provide disk filter systems as manufactured by:
1. Aqua-Aerobic Systems, Inc., of Illinois

2.4 BASIN MOUNTING BRACKETS AND HARDWARE

A. Brackets are existing and shall be utilized to install proposed equipment.

2.5 CENTER TUBE ASSEMBLY

A. The existing center tube assembly shall be re-utilized. The proposed cloth media filter disk assemblies shall be connected to the existing center tube assembly.

2.6 CLOTH MEDIA FILTER DISK ASSEMBLIES

A. Each filter shall include cloth filter assemblies, each consisting of a pile cloth media sock supported by an injection molded polyethylene frame. Cloth/frame assemblies shall be constructed such that each segment is easily removable from the center tube, without special tools, to allow for removal and replacement of the cloth at the point of installation.

B. Cloths shall be constructed of a microfiber pile cloth material with a normal filtration rating of 5 micron. The cloth shall be resistant to continual exposure to free chlorine residuals of 3-5 mg/L. Short duration spike residuals lasting 2-4 hours with concentrations of 8 mg/L shall have no deleterious effects on the cloth. The cloth media shall have an active filter depth of 3 to 5 mm to provide additional collisions between solids particles and the media within the media depth, resulting in capture of solids across a broader particle range. The cloth depth shall also provide storage of captured solids, reducing backwash volumes while maintaining an operational headloss.

C. During filtration, the filter unit shall operate in a static condition with no moving parts. The filter system shall provide for the collection of filtered solids on the outside of the cloth media surface to allow for removal with the cleaning systems. Filtered effluent shall be used for backwashing. The filter flow path may be from the outside of the filter assembly to the inside.

2.6 DRIVE ASSEMBLY

A. The drive assembly shall remain.

2.7 BACKWASH AND SOLIDS REMOVAL SYSTEM / BACKWASH PUMPS

A. The backwash function shall incorporate an existing pump that draws filter effluent through the cloth and into a stationary or rotating shoe thereby removing accumulated solids from the cloth surface. Each filter element shall be cleaned by at least two shoes, one on each side. Heavy duty springs shall be used to tension the shoes against rotating cloth assemblies.

B. Each filter basin backwash/sludge discharge installation includes existing externally mounted backwash pumps (2 per basin plus 1 on-the-shelf spare) that shall be re-utilized in this phase.

C. Backwashing for the proposed filters shall occur in the same manner as the existing, with an additional backwash sequence being included for the two proposed filters for each basin. The Operator shall have the ability to specify the backwash time interval elapses through the operator interface. Backwash shall also be enabled by tank water level, time or manual initiation. The backwash water shall be pressurized by the filter's backwash pump for discharging from the filter system.

D. Filtering shall not be interrupted during normal backwashing and sludge discharge.

E. Each filter shall include one new backwash valve. Valve shall be a two (2) piece, flanged end, ASTM A351 Grade CF8M stainless steel body, 316 stainless steel ball and stem, fullport, with a 115 volt, single phase, 60 Hz, open / close service electrical actuator. Valve / actuator combination shall be TCI / RCI (RCI, a division of Rotork), Nibco, or equal. Valve actuator shall include a compartment heater and limit switch feedback to the microprocessor in both the open and closed positions.

F. Existing solid waste valves shall remain, to be utilized with the expanded filter system.

G. Existing crossover valve shall remain, to be utilized with the expanded filter system.

H. Existing sludge removal system perforated manifold shall remain, to be utilized with the expanded filter system.

2.8 CONTROL SYSTEM

A. Two (2) filter control panels exist on-site and are equipped to handle the controls for the expanded filter disks, backwashing valves, and other associated appurtenances included in the scope of work. All control wiring and setup for the proposed filter disks and equipment shall be handled through the existing control panel that corresponds to the basin the equipment is installed in.

B. Control setup shall include but may not necessarily be limited to the proposed filter disks, backwash valves, and setup of an additional backwashing cycle for each pair of proposed filter disks. Existing method of operations shall remain for the existing filter disks and valves. The existing control panel has been outfitted with all necessary wiring and devices for the proposed equipment; the panel manufacturer's instructions are to be followed concerning the installation of additional control wiring and implementation of program updates to the system.

1. The existing control panel is sized for the proposed load.
2. All control panel wire shall be 14 AWG multi-strand machine tool wire minimum with MTW insulation.
3. All wires shall be clearly marked with an identification number consistent with the wiring schematic drawing.
4. Wiring inside the control panel shall be run in PVC wiring duct rated for continuous temperatures up to 122º F. Devices mounted in the enclosure door shall have wires run in spiral wrap to avoid pinch points when opening and closing the door.
5. All control components shall be mounted internal to the enclosure and be mounted with stainless steel hardware. The enclosure and internal control components must be clearly identified with plastic engraved name tags secured to the panel with stainless steel self-tapping screws.

F. PLC tag database was provided to PCSS and/or Owner for incorporating into top end SCADA for Monitoring and Controls. At minimum the following shall be provided:

1. The following statuses shall be monitored at the plant SCADA (Note: SCADA monitoring is not part of AASI scope of work):
   a. All motor Hand/Off/Auto
   b. All motor running status
   c. All available VFD fault alarms
   d. All available VFD speeds and status
   e. All valve statuses
   f. All pressure statuses
   g. All levels and alarms
   h. All flows and totalized flows

Process Description:	Two (2) cloth-media disks will be provided alongside the four (4) existing cloth-media disks in each of two (2) existing tertiary filtration basins to filter the clarified effluent from the clarifiers before discharging to the disinfection basin. Two (2) existing backwash pumps per basin will clean the filter disks and pump the backwash waste back to the head of the plant. Two existing control panels (one per basin) will control their corresponding backwash valves and backwash pumps. The backwash sequence will be initiated once the water level reaches the manufacturer defined backwash level set-point. The solids removal process shall remain as currently programmed. An existing submersible transducer in each filter basin will measure the liquid level in the filter basin. An existing float provides a backup to the transducers.
P&ID:	7-I-1 Tertiary Filters P&ID
Controlled Devices:	<u>Existing:</u> DF-07-101 – Basin No. 1 Drive SPP-07-101 – Basin No. 1 Backwash Pump No. 1 SPP-07-102 – Basin No. 1 Backwash Pump No. 2 BV-07-101 – Basin No. 1 Solids Waste Valve No. 2 BV-07-105 – Basin No. 1 Solids Waste Valve No. 1 BV-07-103 – Basin No. 1 Backwash Valve No. 2 BV-07-104 – Basin No. 1 Backwash Valve No. 1 BV-07-102 – Basin No. 1 Backwash Crossover Valve BV-07-106 – Basin No. 1 Backwash Pump No. 1 Suction Valve BV-07-107 – Basin No. 1 Backwash Pump No. 1 Discharge Valve BV-07-109 – Basin No. 1 Backwash Pump No. 2 Suction Valve BV-07-110 – Basin No. 1 Backwash Pump No. 2 Discharge Valve PSP-07-101 – Basin No. 1 Turbidimeter Pump DF-07-201 – Basin No. 2 Drive SPP-07-201 – Basin No. 2 Backwash Pump No. 1 SPP-07-202 – Basin No. 2 Backwash Pump No. 2 BV-07-201 – Basin No. 2 Solids Waste Valve No. 2 BV-07-205 – Basin No. 2 Solids Waste Valve No. 1 BV-07-203 – Basin No. 2 Backwash Valve No. 2 BV-07-204 – Basin No. 2 Backwash Valve No. 1 BV-07-202 – Basin No. 2 Backwash Crossover Valve BV-07-206 – Basin No. 2 Backwash Pump No. 1 Suction Valve BV-07-207 – Basin No. 2 Backwash Pump No. 1 Discharge Valve BV-07-209 – Basin No. 2 Backwash Pump No. 2 Suction Valve BV-07-210 – Basin No. 2 Backwash Pump No. 2 Discharge Valve PSP-07-201 – Basin No. 2 Turbidimeter Pump <u>Proposed:</u> BV-07-120 - Basin No. 1 Backwash Valve No. 3 BV-07-220 - Basin No. 2 Backwash Valve No. 3
Instrumentation Devices:	<u>Existing:</u> LE-07-101 – Basin No. 1 Level Transducer LSH-07-101 – Basin No. 1 High-Level Float PIT-07-101 – Basin No. 1 Backwash Pump No. 1 Suction Vacuum Transmitter

	PIT-07-102 – Basin No. 1 Backwash Pump No. 1 Discharge Vacuum Transmitter PIT-07-103 – Basin No. 1 Backwash Pump No. 2 Suction Vacuum Transmitter PIT-07-104 – Basin No. 1 Backwash Pump No. 2 Discharge Vacuum Transmitter PSH-07-101 – Basin No. 1 Turbidimeter Pump High Pressure Switch AE-07-101 – Basin No. 1 Turbidity Sensor AIT-07-101 – Basin No. 1 Turbidity Transmitter FIT-07-101 – Basin No. 1 Backwash System Flow Transmitter LE-07-201 – Basin No. 2 Level Transducer LSH-07-201 – Basin No. 2 High-Level Float PIT-07-201 – Basin No. 2 Backwash Pump No. 1 Vacuum Transmitter PIT-07-202 – Basin No. 2 Backwash Pump No. 1 Pressure Transmitter PIT-07-203 – Basin No. 2 Backwash Pump No. 2 Vacuum Transmitter PIT-07-204 – Basin No. 2 Backwash Pump No. 2 Pressure Transmitter PSH-07-201 – Basin No. 2 Turbidimeter Pump High Pressure Switch AE-07-201 – Basin No. 2 Turbidity Sensor AIT-07-201 – Basin No.2 Turbidity Transmitter FIT-07-201 – Basin No. 2 Backwash System Flow Transmitter
Local Functions:	In the HAND position, the drive and backwash pumps will operate if the interlocks for the pump listed in the INTERLOCKS section below are not active.
MCC Functions:	None
HMI Functions:	Vendor Supplied Local Control Panel.
PLC Functions:	The Tertiary Filter system will be vendor supplied and controlled by the two (2) existing vendor supplied control panels.
SCADA Functions:	Refer to IO list for a list of indications and alarms. PCSS shall coordinate with the Vendor regarding Tag database and IP addresses for data to show on SCADA.
Alarms and Indications:	<u>Alarms Indicated on SCADA:</u> Basin No. 1 Fail Basin No. 1 Backwash Pump No. 1 Fail Basin No. 1 Backwash Pump No. 2 Fail Basin No. 1 High Level Alarm Basin No. 1 Turbidimeter High Pressure Alarm Basin No. 2 Fail Basin No. 2 Backwash Pump Fail Basin No. 2 Backwash Pump No. 1 Fail Basin No. 2 Backwash Pump No. 2 Fail Basin No. 2 High Level Alarm Basin No. 2 Turbidimeter High Pressure Alarm

PART 3 – EXECUTION

3.1 INSPECTION

A. Contractor shall Inspect and verify that structures or surfaces on which equipment will be installed have no defects which will adversely affect installation.

B. Contractor shall Inspect and verify the function of all existing and proposed equipment prior to installation.

C. Contractor shall Promptly report defects which may affect the work to Engineer.

D. Contractor shall Inspect and verify the functionality of all equipment, existing and proposed, after installation is complete. If any equipment does not function properly after the modification as part of this scope of work is completed, it will be the responsibility of the contractor to ensure the equipment is restored to working order.

3.2 INSTALLATION

A. Install and adjust equipment in accordance with the Drawings, approved shop drawings, and the manufacturer's instructions

B. Do not operate the equipment until the installation is approved by the Manufacturer’s on-site representative.

C. Remove temporary bracing supports and other construction debris that may damage equipment.

D. Remove any temporary oils used for protection during shipment.

E. Check equipment for correct operation and freedom of moving parts.

F. Align equipment to Manufacturer's tolerances. Adjust clearances and torques.

3.3 FIELD TESTING

A. Prior to startup, the Manufacturer’s representative, shall inspect new equipment for proper assembly, alignment, and proper operation.

B. Equipment shall be checked for proper alignment to avoid imbalance and excessive vibration. Any misalignment of greater than ¼” shall be remedied by the contractor prior to demonstration period.

C. Place the system into operation. All components shall continue to operate without alarms or shut downs, except as intended, for eight consecutive hours to be considered ready for startup.

D. Field tests shall consist of operating the equipment under normal conditions.

3.4 MANUFACTURER SERVICES

A. A factory trained representative of the manufacturer shall provide services for installation supervision, start-up and field testing services and operation and maintenance personnel training services.

B. Manufacturer's representative shall perform on-site services, according to the following schedule, excluding travel time:

Work	Person Days	Trips
Manufacturer's inspection and certification of installation + pre-demonstration functional and performance testing	4 Total	2 total (One per basin)
Pre-demonstration onsite training of owner personnel	0	N/A
Pre-demonstration start	Combined with functional and performance testing days (no additional days)	Combined with functional and performance testing trips (no additional trips)

C Manufacturer shall provide a written report certifying that the installation has been checked and that the equipment is ready to be placed into service.

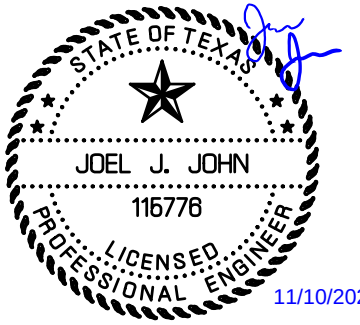
D. Manufacturer shall operate the system in the presence of the Engineer and verify that the equipment meets the specified requirements. Representative shall revisit the Site as often as necessary until all trouble is corrected and the installation is satisfactory. The Manufacturer's Representative shall provide a written report documenting the results of the field testing.

E. All costs, including travel, lodging, meals and incidentals, for additional visits shall be at no additional cost to the OWNER.

F. The Contractor will be back charged by the Client for an unsuccessful field testing demonstration. Schedule the field demonstration a minimum of 48 hours following a successful startup procedure.

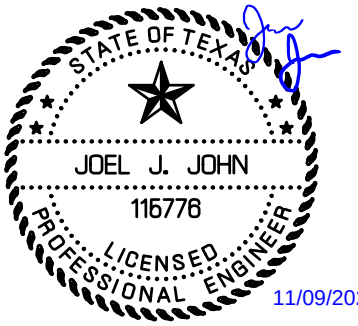
END OF SECTION

CONTROL PANEL SCHEDULE										
Tag No.	Description	Provided By	PLC	OIT/HMI	Minimum Size (in) (H x W x D)	Maximum Size (in) (H x W x D)	Enclosure Rating & Type	Mounting Type	Referenced Specifications	Referenced P&ID
CP-01-001	SCADA Panel (Central PLC Panel CP-12-101)	Contractor	YES	YES	24 x 24 x 12	48 x 36 x 12	NEMA 4X S.S. 316	Rack Mounted	13300, 13441	-
CP-02-001	Lift Station PLC Panel	Contractor	YES	NO	36 x 24 x 12	48 x 36 x 12	NEMA 4X S.S. 316	Rack Mounted	11110, 13300, 13441	2-I-1
CP-03-002	Headworks Control Panel No. 2	Vendor	YES	YES	48 x 36 x 12	60 x 48 x 12	NEMA 4X S.S. 316	Floor with 24" Stands	11221, 13300, 13441	3-I-1
CP-04-001	Peak Shaving Basin Control Panel	Contractor	YES	NO	48 x 36 x 12	60 x 48 x 20	NEMA 4X S.S. 316	Floor with 24" Stands	11130, 13300, 13441	4-I-1
CP-06-301	Clarifier Control Panel	Vendor	NO	NO	24 x 24 x 12	36 x 24 x 12	NEMA 4X S.S. 316	Rack Mounted	11320, 13300, 13441	6-I-1
CP-09-601	Blower No. 6 Local Control Panel	Vendor	YES	YES	24 x 24 x 12	36 x 24 x 12	NEMA 4X S.S. 316	Rack Mounted	11171, 13300, 13441	9-I-1
CP-10-001	NPW System Control Panel	Contractor	YES	NO	60 x 48 x 20	72 x 60 x 24	NEMA 4X S.S. 316	Floor Mounted	11130, 13300, 13441	10-I-1
CP-11-001	Chemical Systems PLC Panel	Contractor	YES	NO	48 x 36 x 12	60 x 48 x 20	NEMA 4X S.S. 316	Rack Mounted	11160, 13300, 13441	11C-I-1
CP-11-001	Chemical Fans Control Panel	Contractor	NO	NO	18x18x10	24x24x10	NEMA 4X S.S. 316	Rack Mounted	11160, 13300, 13441	-
CP-13-101	Sludge Holding Tank Control Panel (Air Lift Valve Bypass)	Contractor	NO	NO	18x18x10	24x24x10	NEMA 4X S.S. 316	Rack Mounted	13300, 13441	13-I-1
CP-14B-001	Dewatering NPW Booster Pumps Control Panel	Contractor	NO	NO	36 x 36 x 12	60 x 48 x 20	NEMA 4X S.S. 316	Floor with 24" Stands	11144, 11445, 13300, 13441	14B-I-1
CP-14B-001	Dewatering Fans Control Panel	Contractor	NO	NO	18x18x10	24x24x10	NEMA 4X S.S. 316	Rack Mounted	11160, 13300, 13441	-
CP-14D-101	Volute Press Control Panel	Vendor	YES	YES	60 x 48 x 12	72 x 60 x 20	NEMA 4X S.S. 316	Floor with 12" Stands	11445, 11540, 13300, 13441	14D-I-1



11/10/2026

Rev. Per Add. No. 2



SECTION 13303
CONTROL SYSTEM TRAINING

PART 1 – GENERAL

1.1 SCOPE OF WORK

A. Furnish training as specified herein.

B. This Section covers the training requirements for all devices and systems furnished and installed as detailed on the Drawings.

C. Refer to Section [13300].

1.2 RELATED WORK

A. Refer to Section [13300].

1.3 SUBMITTALS

A. Refer to Section [13300] for general submittal requirements.

B. Preliminary Training Plan Submittal
   1. Prior to the preparation of the Final Training Plans, submit outlines of each training course including course objectives and target audience, resumes of instructors, prerequisite requirements for each class, and samples of handouts for review.

C. Final Training Plan Submittal
   1. Upon receipt of the Engineer's comments on the preliminary training plan, submit the specific proposed training plan. The training plan shall include:
      a. Definitions, objectives, and target audience of each course.
      b. Schedule of training courses including proposed dates, duration and locations of each class.
      c. Complete copy of all proposed handouts and training materials. Training information shall be bound and logically arranged with all materials reduced to a maximum size of 11 inch by 17 inch, then folded to 8.5 inch by 11 inch for inclusion into the binder.

PART 2 – PRODUCTS - NOT USED

PART 3 – EXECUTION

3.1 GENERAL

A. The cost of the training programs shall be included in the Contract price. The training and instruction shall be directly related to the system being supplied. The training program shall represent a comprehensive program covering all aspects of the operation and maintenance of the system.

B. All training schedules shall be coordinated with and at the convenience of the Owner. Shift training may be required to correspond to the Owner's working schedule.

C. All onsite instructors must be intimately familiar with the operation and control of the Owner's facilities.

D. Provide detailed training manuals to supplement the training courses. The manuals shall include specific details of equipment supplied and operations specific to the project. The manuals shall be provided in hardcopy for each student. Provide electronic copy of each training manual in PDF format for Owner's future use.

E. The trainer shall make use of teaching aids, manuals, slide/video presentations, etc. After the training services, all training materials shall be delivered to Owner.

F. The Owner reserves the right to videotape all custom training sessions. All training tapes shall become the sole property of the Owner.

G. Cost of Travel for off-site training
   1. Cost of Travel for off-site training shall be paid directly by the entity employing the staff doing the traveling.

3.2 TRAINING SUMMARY

A. The following training courses listed in the summary table shall, as a minimum, be provided:

Description	Minimum Course Duration (hours)	Maximum Number of Trainees per Course	Number of Times Course to be Given	Intended Audience
Manufacturer's Training				
Human Machine Interface (HMI) Basic	32	2	1	Administrator
Human Machine Interface (HMI) Advanced	32	2	1	Administrator
Historian	16	2	1	Administrator
Programmable Logic Controller (PLC) Basic	32	2	1	Maintenance, Administrator
Programmable Logic Controller (PLC) Advanced	32	2	1	Maintenance, Administrator
Onsite Training				
Control System Overview Seminar	Covered in AESS scope of work			
Operator Control System Training	Covered in AESS scope of work			
System Reports and Historian Implementation	Covered in AESS scope of work			
Installed Control System	2	2	1	Maintenance, Administrator
PLC Hardware/Software	2	2	1	Maintenance
Instrument manufacturer training - analyzers *(add a row for each specific instrument requiring manufacturer's training)*	4	2	1	Maintenance
Instruments	16	2	1	Maintenance
Instruments - Operator familiarity	2	8	1	Operations
Fiber Optics	4	2	1	Maintenance

B. Definitions of audience roles
   1. Administrator - personnel responsible for maintaining the HMI / SCADA system.
   2. Maintenance - personnel responsible for maintaining the field controller hardware and instrumentation system.
   3. Operations - personnel responsible for daily plant operations.
   4. Management - non-daily operations personnel.

3.3 MANUFACTURER'S TRAINING

A. Human Machine Interface (HMI) Software
   1. Provide manufacturer's standard training courses for Owner's personnel in the configuration, programming, and installation of the HMI software supplied. Conduct this course in separate beginner and advanced training sessions.
   2. This training shall be conducted no more than two months before the Witnessed Factory Test (WFT).
   3. The following training shall be provided as a minimum:
      a. Database generation.
      b. Display generation.
      c. Alarm system and configuration.
      d. Historical data system configuration.
      e. Report generation.
      f. Security system.
      g. Trending system.
      h. Remote communications.
      i. Software configuration.
      j. OLE applications.
      k. Test, adjustment, and calibration procedures.
      l. Troubleshooting and diagnosis.
   4. Training shall include classroom and hands-on instruction such that a student with experience in process instrumentation can configure the HMI with no guidance or with only minimal supervision when attempting complex problems.

B. Historian
   1. Provide manufacturer's standard training courses for Owner's personnel in the configuration, programming, and installation of the Historian software supplied.
   2. This training shall be conducted no more than one month before the Witnessed Factory Test (WFT).
   3. The following training shall be provided as a minimum:
      a. Database generation and configuration.
      b. Trending system.
      c. Using data exporters
      d. Report generation.
      e. Troubleshooting and diagnosis.
      f. Managing historian Servers & data collectors
      g. Configuring clients
      h. Security
      i. Alarm and Event configuration and archiving
   4. Training shall include classroom and hands-on instruction such that a student with experience in process instrumentation can configure the Historian with no guidance or with only minimal supervision when attempting complex problems.

C. Programmable Logic Controller (PLC) Hardware and Software
1. Provide manufacturer's standard training courses for the Owner's personnel in the operation, configuration, programming, installation, and maintenance of the PLC hardware and software supplied. Conduct this course in separate beginner and advanced training sessions.
2. The training shall be conducted no more than two months before the WFT.
3. The following hardware training shall be provided as a minimum:
   a. Hardware maintenance for the PLC equipment provided.
   b. Test, adjustment, and calibration procedures.
   c. Troubleshooting and diagnosis.
   d. Component removal and replacement.
   e. Periodic maintenance.
4. The following software training shall be provided as a minimum:
   a. System configuration.
   b. Application specific program development/programming.
   c. Uploading/downloading programs.
   d. Documenting program/configuration.
   e. System backups and reload procedures.
   f. TCP/IP addressing procedures.
   g. Network communications configuration.

3.4 ONSITE TRAINING

A. Training personnel shall be intimately familiar with the control system equipment, its manipulation, and configuration. Training personnel shall command knowledge of system debugging, program modification, troubleshooting, maintenance procedure, system operation, and programming, and shall be capable of transferring this knowledge in an orderly fashion to technically oriented personnel.

B. Installed Control System Training
1. Provide training for the Owner's personnel in the functionality, maintenance, and troubleshooting, of the installed Control System. The training shall be held before the Functional Demonstrator Test (FDT), but not more than two months before.
2. Training and instruction shall be specific to the system that is being supplied.
3. Training shall consist of classroom instructions and hands-on instruction utilizing the Owner's system.
4. Detailed training shall be provided on the actual configuration and implementation for this Contract. Training shall cover all aspects of the system that will allow the Owner's personnel to maintain, modify, troubleshoot, and develop future additions/deletions to the system. The training shall cover the following subjects, as a minimum:
   a. System overview.
   b. System hardware components and specific equipment arrangements.
   c. Periodic maintenance.
   d. Troubleshooting and diagnosis.
   e. Network configuration, communications, and operation.
   f. TCP/IP addressing procedures for all Ethernet devices.

C. Programmable Logic Controller (PLC) Hardware and Software
1. Provide training for the Owner's personnel in the operation, maintenance, troubleshooting, etc. with the PLC hardware and software system. The training shall be held before the FDT, but not more than two months before.
2. Training and instruction shall be specific to the system that is being supplied.
3. Training shall consist of classroom instructions and hands-on instruction utilizing the Owner's system.

4. Detailed training shall be provided on the actual configuration and implementation for this Contract. Training shall cover all aspects of the PLC system that will allow the Owner's personnel to maintain, modify, troubleshoot, and develop future additions/deletions to the PLC system. The training shall cover the following subjects, as a minimum:
   a. PLC system overview.
   b. PLC system architecture.
   c. PLC system hardware components and specific equipment arrangements.
   d. PLC system startup, shut down, load, backup, and PLC failure recovery.
   e. Periodic maintenance.
   f. Troubleshooting and diagnosis down to the I/O card level.
   g. PLC configuration, communications, and operation.

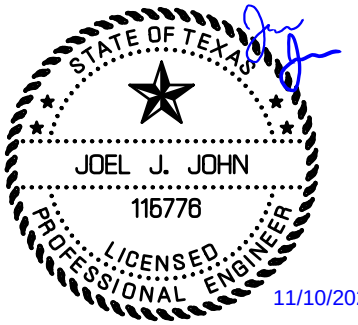
D. Instrument Manufacturer Training
1. Manufacturer instrument training shall be provided for those instruments where specifically indicated in the Instruments section. This shall be on-site training provided by an authorized representative of the manufacturer. The manufacturer's representative shall be fully knowledgeable in the operation and maintenance of the equipment.

E. Instrument Training
1. Provide instruction on the maintenance of the field and panel instrumentation for the Owner's instrumentation technicians. This training shall be conducted before the FDT, but no more than 1 month before and at a time suitable to the Owner. This training shall take place at the Owner's facility. As a minimum the following shall be included:
   a. Training in standard hardware maintenance for the instruments provided.
   b. Specific training for the actual instrumentation configuration to provide a detailed understanding of how the equipment and components are arranged, connected, and set up for this Contract.
   c. Test, adjustment, and calibration procedures.
   d. Troubleshooting and diagnosis.
   e. Periodic maintenance.

F. Instruments - Operator familiarity
1. Provide operator level instruction on the use of the field and panel instrumentation for the Owner's operations staff. This training shall be conducted before the 30 day site acceptance test, but no more than 1 month before and at a time suitable to the Owner. This training shall take place at the Owner's facility. Include hands on demonstration of the information each transmitter indicates and the method used to retrieve any operator information from the transmitter, including use of pushbuttons and interpretation of international graphic symbols used on the instruments.

G. Fiber Optic Training
1. Provide instruction on the maintenance of the fiber optic system for the Owner's instrumentation technicians. This training shall be conducted before the FDT, but no more than 1 month before and at a time suitable to the Owner. This training shall take place at the Owner's facility. As a minimum the following shall be included:
   a. Fiber cable layout and basic of cable construction.
   b. Termination procedures
   c. "Jumper" installation
   d. Testing procedures.
   e. Troubleshooting and diagnosis.

END OF SECTION



11/10/2026

SECTION 13311
PLC HARDWARE AND SOFTWARE

PART 1 - GENERAL

1.1 SUMMARY

This section specifies the design, construction, and installation of a programmable logic controller (PLC) and accessories to be installed at each site. Installation of the PLC and accessories shall be completed by the accepted Control Panel Manufacturers.

1.2 RELATED WORK

A. Division 13 – Special Construction

B. Division 16 - Electrical

1.3 SUBMITTALS

A. Provide shop drawings and product data, including schematic piping and detailed installation instructions and drawings. Submit as specified in Division 1, General Requirements.

B. Provide I/O point list and wire tag list.

C. Furnish four (4) sets of operation and maintenance manuals containing all necessary drawings, instructions, and parts lists. These will be included in the project operation and maintenance manuals as described in Section 01300 – Submittals.

1.4 GUARANTEE

For a period of 12 months after final acceptance, the manufacturer shall warrant that the equipment shall be free of defects in material and workmanship under normal use and service when properly installed. The manufacturer shall repair or replace, F.O.B. point of shipment, such equipment or any part thereof furnished by the manufacturer which is found to be defective after inspection by the manufacturer.

1.5 QUALITY ASSURANCE

A. Provide all specified equipment of the latest and most modern design guaranteed by the manufacturer to meet the performance requirements as specified herein.

B. In case of specified equipment being discontinued within eighteen (18) months of submittal, notify and submit manufacturer suggested equivalent replacement.

C. Provide a qualified technical representative of the manufacturer to inspect the completed equipment installation, make all the adjustments necessary to place the equipment in trouble-free operation, and to instruct operating personnel in the proper care and operation of the equipment furnished.

1.6 ACCEPTABLE MANUFACTURERS

All specified equipment must be furnished by a single manufacturer or its agent. The purpose is to maintain unified responsibility of system components.

A. Provide PLC equipment as manufactured from the following acceptable manufacturers:
   1. Schneider Electric Modicon

1.7 ACCEPTABLE INTEGRATORS

A. The following is a list of acceptable Control Panel Manufacturers:
   1. Texas Industrial Control Manufacturing
   2. Prime Controls
   3. Weimar Manufacturing
   4. Ace Controls
   5. Macauley Controls
   6. Mercer Controls
   7. Waymire Systems Inc.
   8. Control Panels USA
   9. Pre-approved Equal

1.8 PERFORMANCE AND DESIGN REQUIREMENTS

The PLC system shall accomplish the control requirements of the process control narratives, Drawings and Specification sections. PLC programming shall be documented and factory tested by the Contractor/Integrator.

PART 2 – PRODUCTS

2.1 COMPONENTS

The PLC shall be a complete and operating system including, but not limited to the following components: PLC Central Processing Unit (CPU), PLC modules, chassis, power supply, connection bases, and connection cables.

A. Provide one (1) PLC to be installed in CP-12-101 as shown on the Drawings with the following PLC components:
   1. PLC Central Processing Unit (CPU) with a minimum of one (1) RS-232 serial port.
      a. Modicon M340
   2. I/O Modules
      a. 24VDC I/O power supply module: Modicon M340 BMX CPS 2010
      b. Compact 8 channel analog input modules: Modicon M340 BMX AMI 0810
      c. Compact 16 channel digital DC input modules: Modicon M340 BMX DDI 1602
      d. Compact 8 channel analog output module: Modicon M340 BMX AMO 0800
      e. Compact 16 channel digital DC output module: Modicon M340 BMX DDO 1602
      f. Additonal as required to satisfy project IO requirements
      g. IO shall be supplied to provide 20% spare IO capacity for each type.
   3. Terminal Blocks: BMX FTB 2000; BMX FTB 2800
   4. Back Panel: BMX XBP 1200
   5. Empty Slot Covers: BMX XEM 010

6. If required: Rack Expansion Kit BMXXBE2005: 2 BMXXBE1000 rack expansion modules, 1 BMXXBC008K extension cordset, and 1 TSXTLYEX line terminator (Set of 2)
7. Ethernet TCP/IP switch
    a. Schneider Electric Modicon Standard Unmanaged Switch MCSESU053F1CU0
    b. Or BMX NOC 0401
    c. Schneider Electric Modicon Managed Switch MCSESM053F1CS0 *(4 copper + 1 SM Fiber managed for remote access)*
8. Power Surge Protection on every component
    a. Combination lighting arrestor and transient voltage surge suppressor din rail mounted, Phoenix Contact Combotrab 2856702.
9. Real time clock (AM/PM)
10. Updateable EPROM
11. 64-bit processor
12. Contractor to provide required number of I/O plus 25% Spare I/O of each type; at minimum, 4 spare points of each type.
13. If the number of required I/O modules exceed single rack capacity, additional rack, power supply, rack extender modules, communication cables, and other necessary items shall be provided to have a complete and working system.
14. The PLC shall have a surge protection device installed prior to the UPS and located inside the Autosensory Panel. Surge protection device shall be Phoenix Contact SPF 1-14/120AC or pre-approved equal.
15. The PLC shall utilize a UPS with battery backup system. The UPS shall be designed for 150% of the required load and the battery shall be designed to back up the PLC for a minimum of 30 minutes.
16. Provide a “PLC Failure” alarm to be transmitted to the Cellular Autodialer.
17. PLC power supply shall not be used to power field devices. A separate power supply must be used for field devices.
18. Panel
    a. HMI DT551 *(10”)*, HMI DT651 *(12”)*, HMI DT752 *(15.6”)*
    b. HMI G3U *(outdoor);* HMI G5U2 *(more powerful)*
    c. Panel Mounted Industrial PC – Refer to Specification 13310
19. Spare Parts
    a. One (1) spare CPU
    b. One (1) spare I/O card of each type
    c. One (1) spare power supply

B. Provide PLCs and its associated hardware as required from the Drawings.
    1. PCSS shall supply all non-vendor PLCs as shown on the Drawings.

2.2 INPUT/OUTPUT

The PLC shall have the digital and analog I/O as shown on the contract drawings.

PART 3 – EXECUTION

3.1 PROGRAMMING

A. Contractor shall provide the following with the PLC submittal:
    1. PLC including display, I/O expansion cards, and power supply.
    2. Device Layout

3. Terminal Block I/O list.
4. AESS shall provide all software programming services.

3.2 INSTALLATION

A. Install the PLC as shown on the plans. Use stainless steel hardware and anchor bolts.

B. Connect the PLC to the appropriate input and output devices with appropriate wiring and conduits.

3.3 MANUFACTURER'S REPRESENTATIVE

A. Provide the services of a factory-trained representative of the manufacturer for installation and correction of any defects or malfunctions.

PART 4 – RECORD DOCUMENTS

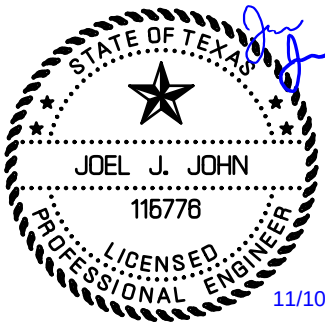
4.1 PLC DOCUMENTATION

A. Provide the complete PLC program in digital format and all files required for programming the PLC.

B. Provide a bill of materials.

C. Provide a PDF file of all ladder logic.

END OF SECTION



SECTION 13340
INSTRUMENTS

PART 1 – GENERAL

1.1 SCOPE OF WORK

A. This Section covers the furnishing, installation, and services for instruments.

1.2 RELATED WORK

A. Refer to Section 13300 “I & C - General Provisions.”

1.3 SUBMITTALS

A. Submit complete documentation of all field instruments using ISA-TR20.00.01-2001 (updated in 2004-2006) data sheet formats. Submit a complete Bill of Materials (BOM) or Index that lists all instrumentation equipment. The list shall be sorted by Loop Number.

B. Submit separate data sheets for each instrument including:
1. Plant Equipment Number and ISA tag number per the Drawings.
2. Product (item) name used herein and on the Drawings.
3. Manufacturer's complete model number.
4. Location of the device.
5. Input - output characteristics.
6. Range, size, and graduations in engineering units.
7. Physical size with dimensions, enclosure NEMA classification and mounting details in sufficient detail to determine compliance with requirements.
8. Materials of construction for enclosure and wetted parts.
9. Instrument or control device sizing calculations where applicable.
10. Certified calibration data for all flow metering devices.
11. Two-wire or four-wire device type as applicable.

C. Submit catalog cuts for all instruments. Submit descriptive literature for each hardware component, which fully describes the units being provided.

D. Submit index and data sheets in electronic format as well as hard copies on 8-1/2" x 11" formats. Electronic format shall be in Microsoft Excel or Word. Submit electronic copy on CD-ROM or DVD disk.

1.4 MAINTENANCE

A. Refer to Section 13300.

1.5 INSTRUMENT TAGS

A. A permanent stainless steel or other non-corrosive material tag firmly attached and permanently and indelibly marked with the instrument tag number, as indicated in the Drawings, shall be provided on each piece of equipment supplied under this Section and related sections. Equipment shall be tagged before shipping to the site.

B. Provide 1/8-in by 3/8-in, Type 316 stainless steel button head machine screws.

C. All supplied instrument transmitters and instrument transmitter elements shall have a stainless steel identification tag attached to each transmitter and element prior to shipment. Tag shall be attached via stainless steel chain or stainless steel wire (24 gauge min) to a non-removable part of the device. The tag size shall be a minimum of 1.5 square inches. Tag shall include the ISA alphanumeric instrument number as indicated in the P&ID, loop, and detail drawings. The alphanumeric instrument number shall be stamped into the tag and shall have a minimum of 3/16-in high alphanumeric characters.

1.6 MANUFACTURERS' START-UP AND TRAINING SERVICES

A. If indicated in the individual instrumentation paragraphs, the instrument manufacturer or manufacturer's certified service representative shall provide start-up and training services. This work shall not be done by the PCSS or AESS contractor.

B. The start-up services shall be to calibrate, oversee the installations of the sensor, and start-up the sensor/transmitter in order to provide reliable measurement at the instrument and to a remote system. The vendor shall work with the PCSS and AESS to verify the transmitter sends correct information to the remote system (i.e., that the scaling and units are the same at the instrument and on the remote operator interface).

C. While the instrument manufacturer or manufacturer's certified service representative is starting up the instrumentation, training shall be provided to the Owner's instrumentation technicians. The training shall be in how to calibrate, install, troubleshoot, read the diagnostics, and maintain the sensor and transmitter.

PART 2 – PRODUCTS

2.1 MAGNETIC FLOWMETER

A. Flow Element
   1. Type:
      a. Pulsed DC type.
   2. Function/Performance:
      a. Operating Temperature: Process liquid temperatures of 0 to 140 degrees F or greater dependent upon liner and an ambient of minus 30 to 150 degrees F.
      b. Radio Frequency Interference (RFI) protection: RFI protection shall be provided as recommended by the manufacturer.
      c. Pressure rating: Equal to piping system where meter is installed.
      d. Additional: Meter shall be capable of running empty indefinitely without damage to any component.
   3. Physical:
      a. Flanges: ANSI 150 lb. or DIN PN 16 carbon steel, as required by the piping system, unless otherwise indicated.
      b. Liner: Polyurethane or composite elastomer unless otherwise indicated on the Drawings or in the Instrument Device Schedule.
      c. Electrodes: Type 316 stainless steel standard minimum requirements. All electrodes to be compatible with process fluid as indicated on the Drawings or electrodes to be supplied as listed in the Instrument Device Schedule.
      d. For sludge, polymer, or any slurry application where the electrodes will be coated, a self-cleaning or a removable electrode option must be provided with that meter.

e. Housing: For meters with remote mounted transmitters, meters below grade shall be suitable for submergence for up to 48 hours to a depth of 30 ft. (9m). Meters above grade shall be NEMA 4X (IP65). Where hazardous areas are indicated on the Drawings, the equipment shall be rated for that area.

f. Finish: All external surfaces shall have a chemical and corrosion resistant finish.

4. Power Requirements:
   a. Meter shall be 24 VDC powered instrument, receiving its power from transmitter.
5. Accessories/Documentation Required:
   a. Factory calibration: All meters shall be factory calibrated. A copy of the calibration report shall be included in the O&M manual.
   b. Grounding: Meter shall be grounded in accordance with the manufacturer's recommendation. Provide ground ring, ground wires, gaskets, etc., as required. All materials shall be suitable for the liquid being measured and must be compatible with process fluid and with the process pipe.
   c. For meters with remote mounted transmitters, signal cable for installation between the flow tube and the transmitter. Length shall be as required by installation as indicated on the Drawings.

B. Flow Converter/Transmitter
1. Type:
   a. Micro-processor based, intelligent transmitter compatible with flow tube provided.
   b. Integral mount or mounted remote from the flow tube as shown on the drawings or as required by the physical location.
2. Functional/Performance:
   a. Accuracy (including flow tube): Plus/minus 0.5 percent of flow rate or better.
   b. Operating Temperature: –20 to 140 degrees F.
   c. 4-20mA and Ethernet/IP communication.
   d. Output: Isolated 4-20 mA with HART protocol. Current output adjustable over the full range of the instrument. Provide a dry contact to indicate reverse flow.
   e. Diagnostics: Self diagnostics with on screen display of faults.
   f. Display: Digital indicator displaying flow in engineering units indicated in the Instrument Device Schedule.
   g. Totalizer: A fully configurable totalizer integral to the transmitter. Totalized flow shall be displayed.
   h. Empty Tube Zero: The transmitter shall include a feature that will lock the output at zero when no flow is detected. The empty tube zero feature shall be enabled automatically when the transmitter detects no flow or manually through a contact input.
   i. Provide electrode cleaning unit to match flow element requirements.
3. Physical:
   a. Transmitter shall be suitable for surface or pipe stand mounting.
   b. Enclosure shall be NEMA 4X (IP65).
   c. Transmitter shall include protective screen cover to shield against solar damage.
4. Power Requirements:
   a. The transmitter shall be 120 VAC powered instrument.
5. Accessories/ Required:
   a. Keypad where required for transmitter configuration.
6. Manufacturer:
   a. Endress + Hauser Promag W 400 (EtherNet/IP)
   b. ABB Instruments WaterMaster.

c. Rosemount Series 8705W Meter and 8732E Transmitter for remote mounted transmitter, or 8700M meter/transmitter for integral mounted. NOTE: Copy and paste instrument paragraphs you need from [Section 13341] through [section 13346] or refer back to listing in [13300] of listing of individual instrumentation specifications used on your project.

2.2 THERMAL DISPERSION MASS FLOWMETER

A. Flow Element
1. Type:
   a. Thermal dispersion sensor with integral electronics enclosure.
   b. In line with flow body type as indicated on the Drawings.
2. Function/Performance:
   a. Flow Velocity Range: 200 ft/s (60.96 m/s) maximum.
   b. Process Operating Temperature: -40-to-350-degree F.
   c. Operating Temperature for Electronics: 0 to 140 degree F.
3. Physical:
   a. Inline flow bodies to be flanged and fabricated of Type 316 stainless steel. Sensor to be factory mounted in the flow body. Flanges shall be compatible with flanges of the piping system where the meters are installed.
   b. Wetted parts to be Type 316 stainless steel.
   c. Electronics head to be NEMA 4X (IP65) for non-hazardous process gases and explosion proof approved for Class 1, Division 1, Groups C and D (EEx d IIC) for hazardous process gases or where located in a hazardous area.
4. Power Requirements:
   a. Transducer shall receive its power from the remote transmitter
5. Accessories Required:
   a. Cable as supplied or recommended by the manufacturer for connection of sensor to transmitter. Length as required by installation indicated on the Drawings.
   b. For insertion type flow elements a hot tap assembly including a ball valve and packing gland that will allow removal of the sensor without shutdown of the process, shall be provided. The hot tap assembly shall be installed in a welded fitting on the pipe.

B. Transmitter
1. Type:
   a. Remotely mounted micro-processor based, intelligent transmitter compatible with flow element provided.
2. Function/Performance:
   a. Accuracy (including flow element): ±1.5 percent of reading, +0.5 percent of full scale.
   b. Repeatability (including flow element): ±0.5 percent of reading.
   c. Turn Down: 100:1 within specified flow range.
   d. Operating Temperature: 0 to 140 degrees F.
   e. Output: One isolated 4-20 mA output and two alarm contacts rated 2 A at 230 VAC, adjustable over the full instrument range.
   f. Diagnostics: On screen instructions and display of self-diagnostics.
   g. Totalizer: A fully configurable totalizer integral to the transmitter. Totalized flow shall be displayed.
   h. Display: Digital indicator displaying flow in engineering units indicated on the Drawings or in the Instrument Device Schedule.

C. Physical:
1. Transmitter shall be suitable for surface mounting.
2. Enclosure shall be NEMA 4X (IP65) when installed in non-hazardous areas and explosion proof approved for Class 1, Division 1, Groups C and D (EEx d IIC) when installed in hazardous areas.

D. Power Requirements:
1. Transmitter shall be 120 VAC powered instrument. Power supply for the instrument shall be from the PLC.

E. Manufacturer(s):
1. Fluid Components International ST80L.
2. approved equal.

2.3 VANE ACTUATED FLOW SWITCH

A. Type:
1. Vane or disc actuated flow switch.
2. Switch magnetically linked to vane or disc actuated mechanism.

B. Function/Performance:
1. Output: Form 2C (DPDT) snap action, hermetically sealed switch, rated for 10 amps, 125/250 volts AC.

C. Physical:
1. Switches for pipe sizes of 3/4 to 1-1/2 inches (19 to 40 mm) shall be provided with a flow body. Switches for pipe sizes greater than 1-1/2 inches (40 mm) shall be for installation directly in the field piping.
2. Flow body and all wetted parts shall be Type 316 stainless steel.
3. Switch housing shall be NEMA 4X (IP65) and where installed in hazardous areas, shall be approved for Class I, Division 1, Groups C and D (EEx d IIC T6).

D. Manufacturer(s):
1. Magnetrol F50 and F10.
2. Dwyer Series V4
3. Equal.

2.4 ULTRASONIC LEVEL/DIFFERENTIAL LEVEL METER

A. Transducer
1. Type
   a. Non-contact, ultrasonic level transducer.
2. Function/Performance
   a. Measuring Range: Transducer range shall be suitable for the installation indicated on the Drawings, up to 50 ft. (15m).
   b. Temperature Range: –20 to 60 degrees C.
   c. Relative Humidity: Zero to 100 percent.
   d. Temperature Compensation: Transducers shall be provided with integral temperature sensors for temperature compensation at above temperature ranges.
3. Physical
   a. Transducers shall be potted/encapsulated in a Kynar or other chemical and corrosion-resistant housing. Where indicated on the Drawings, transducers shall be approved for installation in Class I, Division 1, Groups C and D (Zone 0) environments.

b. The surface of transducers shall be Teflon-coated where mounted on chemical tanks and exposed to vapors in the tanks that are not compatible with the transducer material.
c. Transducers shall be capable of being completely submerged without damage.
d. Transducers shall be suitable for surface, pipe, or flange mounting as indicated on the Drawings or Instrument Device Schedule. Appropriate mounting hardwired shall be provided. Flanges shall be six inch (150 mm) and resistant to attack by the medium being metered or, where required, shall be protected by corrosion- resistant coatings and facings.

4. Options/Accessories Required
   a. Transducers located in areas where freezing condensation may occur shall be provided with special heaters or other type of transducer protection designed to prevent sensor icing.
   b. Signal cable as recommended by the manufacturer, for installation between the transducer(s) and the transmitter. Length, up to 1000 feet (300 m), shall be as required by installation indicated on the Drawings.
5. Manufacturer(s)
   a. Siemens XPS-10
   b. Endress+Hauser Prosonic
   c. Or Equal.

B. Transmitter/Converter
1. Type
   a. Microprocessor based compatible with the transducer(s) provided.
2. Functional/Performance
   a. Resolution (including transducer): Plus or minus 0.1 percent of range or 0.08 inches (2 mm), whichever is greater.
   b. Accuracy (including transducer): Plus or minus 0.25 percent of range or 0.24 inches (6 mm).
   c. Range: As required by the installation indicated on the Drawings.
   d. Temperature Range: -20 to 50 degrees C.
   e. Output: Minimum one isolated 4-20 mA output and minimum four alarm contacts (number of contacts above 4 required of each device to be determined by signals required as shown on the drawings adjustable to trip at any point in the instrument range. Output contacts shall be rated 5 A at 230 VAC.
   f. Temperature Compensation: Compensation over the temperature range of the sensor.
   g. Display: Digital indicator displaying level/differential level or volume in engineering units or percent as indicated on the Drawings or in the Instrument Device Schedule.
   h. Diagnostics: On-screen instructions and display of self-diagnostics.
   i. Loss of Signal: Transmitter shall ignore momentary loss-of-echo signals and shall indicate loss of echo on the transmitter unit.
   j. Configuration Protection: Programmable parameters shall be protected using E2PROM. Battery backup protection is not acceptable.
3. Physical
   a. Transmitter shall be suitable for surface or pipe stand mounting.
   b. Enclosure shall be NEMA 4X (IP65).
   c. A/C power will be as specified in Section 13300.
4. Accessories Required
   a. Hand-held programmer where required for configuration and calibration of the instrument.
5. Manufacturer(s)
   a. Siemens Echomax Transducers and HydroRanger/MultiRanger 200.
   b. Endress & Hauser Micropilot FMU series Transducers and Prosonics FMA90
   c. Equal.

2.5 LEVEL SWITCHES (FLOATS)

A. Type
1. Mercury free ball float switch.

B. Function/Performance
1. Differential: Less than 8 inch.
2. Switch Rating: 1 amps at 120 VAC or 100 VA @ 120 VAC
3. Provide NO or NC type contact for fail-safe operation per Section 13300, Paragraph 2.01.F or as shown on the Drawings.

C. Physical
1. Float: Type 316 stainless steel, Teflon or non-stick coating, minimum 5 in diameter.
2. Totally encapsulated switch.
3. Cable shall be heavy-duty, PVC or equivalent jacketed integral to float.
4. Provide stainless cable hanger for proper installation

D. Options/Accessories Required
1. Provide stainless steel hardware.
2. Lead wire shall be a waterproof cable of sufficient length so that no splice or junction box is required in the vault.
3. Provide cast-aluminum weatherproof junction box outside the sump pit with terminals for all floats and tapped as required for conduit connections.

E. Manufacturer(s)
1. Siemens Water Technologies Model 9G-EF.
2. Contegra FS 90
3. Or equal.

2.6 FLOOD LEVEL SWITCH

A. Type: Float operated, liquid level control for floor level sumps or troughs. Single snap-action dry contact switch mechanism.

B. Performance Requirements:
1. Single-Pole Double-Throw contact rated @120VAC.
2. 3/4" level differential for off-on control/alarm.

C. Construction Features:
1. NEMA 4X, 6, 7/9 cast aluminum submersible enclosure.
2. +250°F maximum ambient temperature.

D. Manufacturers:
1. Magnetrol Model FLS.
2. Or equal.

2.7 PROCESS TAPS, SENSING LINES, AND ACCESSORIES

A. Water Pressure Sensing Lines and Accessories for Flow and Pressure Transmitters:

1. Material: Copper Water Tube, ASTM B-88, Type L, drawn temper or annealed.
2. Pressure Rating: 150 psi.
3. Size: 1/2-inch O.D. for water.
4. Connections: Brass Compression Type, "Swagelok" by Crawford, or equal.
5. Shut-off Valves:
   a. Type: Ball.
   b. Pressure Rating: 150 psi.
   c. Body, Ball and Stern: Brass.
   d. Packing: High Density TFE.
   e. Handle: Nylon with metal travel stops.
   f. Support Rings: TFE coated brass.
   g. End Connections: Removable "Swagelok", or equal.
   h. Model: Whitey 45 Series for water, or equal.
6. Manifolds:
   a. Type: 5-valve and 3-valve meter manifolds.
   b. Materials: Type 316 stainless steel body, bonnets and stems; delrin seats; teflon packing.
   c. Products and Manufacturers: Provide one of the following:
      i. Anderson-Greenwood.
      ii. Or equal.

B. Air Pressure Sensing Lines and Accessories for Air Flow/Pressure Transmitters:
1. Material: Type 316 stainless steel tubing, ASTM A269, medium wall thickness.
2. Pressure Rating: 150 psi.
3. Size: 3/8-inch O.D. for air.
4. Connections: Type 316 stainless steel compression type, “Swagelok" by Crawford or equal.
5. Shut-off Valves:
   a. Type: Ball.
   b. Pressure Rating: 150 psi.
   c. Body, Ball and Stem: Type 316 stainless steel.
   d. Packing: High density TFE.
   e. Handle: Nylon with metal travel stops.
   f. Support Rings: TFE coated Type 316 stainless steel.
   g. End Connections: Removable "Swagelok", or equal.
   h. Products and Manufacturers: Provide one of the following:
      i. 43 Series, as manufactured by Whitey.
      ii. Or equal.
6. Manifolds:
   a. Type: 5-valve and 3-valve meter manifolds.
   b. Materials: Type 316 stainless steel body, bonnets and stems; delrin seats; Teflon packing.
   c. Products and Manufacturers: Provide one of the following:
      i. Anderson-Greenwood.
      ii. Or equal.

C. Pressure Tap Sensing Lines and Accessories for Pressure Gauges and Pressure Switches:
1. For Process Sensing Taps in Ductile Iron, Steel and Stainless Steel Piping Systems:
   a. Material and Fittings: Type 304 stainless steel pipe (ASTM A 312) and threaded fittings and adapters (ASTM A 403).
   b. Sizes: 1/2-inch minimum for main sensing piping and 1/4-inch gauge and switch connections.
   c. Pressure Rating: Equal to or greater than the applicable system test pressure as specified in

the Piping Schedule in Section 15600.

d. Accessories:
   i. For applications not requiring diaphragm seals, provide separate 1/2-inch Type 316 stainless steel threaded ball valve for each gauge and switch.
   ii. For applications requiring diaphragm seals, provide a separate 1/2- inch threaded Type 316 stainless steel ball valve for seal process side shutoff.

2. For Process Sensing Taps in Copper and Thermoplastic Piping Systems:
   a. Pipe Material and Fittings: Use same type of pipe material and fittings as that used in the process piping system. PVC pipe and fittings shall be provided in accordance with the requirements of Section 15600, Plant Piping.
   b. Sizes: 1/2-inch minimum for main process sensing piping and 1/4-inch for gauge and switch connections.
   c. Pressure Rating: Equal to or greater than the applicable system test pressure as specified in Section 15600, Plant Piping.
   d. Accessories:
      i. For copper piping system taps with or without seals, provide a separate 1/2-inch minimum threaded brass or bronze ball valve for each gauge and switch.
      ii. For PVC piping systems with or without diaphragm seals, provide a separate 1/2-inch threaded ball valve for process sensing line shutoff.

2.8 PRESSURE GAUGES

A. Type: Bourdon Tube Pressure Element Type, Liquid Filled Gauge (for pressure ranges of 15 psi and greater and vacuum ranges to 30-inches Hg):

B. Performance Requirements:
   1. Range: As specified in the Instrument Index.
   2. Accuracy: ±0.5 percent of span (ANSI B40.1 Grade 2A).

C. Construction Features:
   1. Case:
      a. Solid front design constructed of glass filled polyester.
      b. Color: Black.
   2. Size: 4-1/2-inch.
   3. Ring: Threaded, glass filled polyester.
   4. Window: Glass.
   5. Dial: White with black markings.
   6. Filling Liquid: See Article 1.8.
   7. Overpressure protection: Full blowout back.
   8. Bourdon Tube and Socket:
      a. Type 316 stainless steel.
      b. Heliarc welded, unless otherwise specified.
   9. Movement:
      a. Type 300 series stainless steel.
      b. Rotary geared with Teflon S coating, or cam and roller type.
      c. Built-in overload and underload movement stops.
   10. Connection: 1/4-inch male NPT, bottom.
   11. Mounting: Stem Mount.
   12. Calibration:

a. Adjustable pointer.
b. Externally accessible zero adjustment.

D. Accessories:
1. Pressure Snubber: Sintered stainless steel snubber threaded into gauge socket or in external stainless steel housing with 1/4-inch NPT male and female connections.
2. Process Isolation: Provide ball valves for process isolation in accordance with the requirements of Article 2.1, above.
3. Process Isolation: Wetted parts that might come in contact with sewage, sludge, or any other wastewater shall have a stainless steel diaphragm or be provided an isolation ring to prevent corrosion and damage to the gauge's internals.

E. Products and Manufacturers: Provide one of the following:
1. Ashcroft, Duragage 1279 Series.
2. Helicoid, Series 900.
3. Wika EN 837.
4. Or equal.

2.9 PRESSURE INDICATING TRANSMITTER

1. Type:
a. Microprocessor based, intelligent type.

2. Function/Performance:
a. Range: Range of the transmitter shall be the standard range of the manufacturer closest to the pressure range to be metered.
b. Accuracy: 0.075 percent of span.
c. Operating Temperature: -20 to 80 degrees C.
d. Temperature Effect: Combined temperature effects shall be less than 0.2 percent of maximum span per 28 degrees C temperature change.
e. Output: 4-20 mA DC linear with pressure or level, with HART protocol. Zero adjustable over the range of the instrument provided calibrated span is greater than the minimum calibrated span.
f. Stability: 0.05 percent of upper range limit for 1 year.
g. Display: Digital indicator displaying pressure or level in the engineering units indicated in the Instrument Device Schedule.
h. Diagnostics:
i. Self-diagnostics with transmitter failure driving output to above or below out of range limits.
ii. Simulation capability for inputs and loop outputs.
iii. Test terminals available to ease connection for test equipment without opening the loop.
iv. Registers to record minimum and maximum pressure and temperatures transmitter has been exposed to shall be available.
v. Run-time clock available to determine usage for warranty purposes. 5-year warranty on this clock reading is included.
vi. Over Range Protection: Provide positive over range protection to 150 percent of the maximum pressure of the system being monitored by the instrument.

i. If required to meet the range or suppression/elevation requirements, a differential pressure transmitter shall be provided.

3. Physical:
   a. Enclosure: NEMA 4X (IP66), explosion proof, approved for Class I, Division 1, Groups C and D (EEx d IIC T5).
   b. Process Wetted Parts: Isolating diaphragm and other wetted metal parts shall be Type 316L stainless steel, unless otherwise indicated in the device schedule. Gaskets and O rings shall be Teflon.
   c. Power Supply: 24 VDC loop power.
   d. Sensor Fill Fluid: Silicone.

4. Accessories Required:
   a. Provide span and zero adjustment at each transmitter and through the handheld programming unit.
      i. Configuration of the transmitter may be accomplished using the local display and pushbuttons without the use of an external programming device.
   b. For each transmitter provide a Type 316 stainless steel block & bleed shut off valve. Valves may be mounted directly to the instrument or separately mounted. Valves shall be by the instrument manufacturer or by D/A Manufacturing or Anderson Greenwood.

5. Manufacturer(s):
   a. Rosemount 3051TG Series.
   b. Siemens Sitrans P
   c. Foxboro IAP05S.
   d. Pre-approved equal.

2.10 PRESSURE SWITCH

A. Type:
   1. Diaphragm actuated, dual-setpoint.

B. Function/Performance:
   1. Repeatability: Better than 1 percent of full scale.
   2. Setpoints: Field adjustable dual setpoints, capable of being set anywhere within adjustable range.
   3. Dead Band: Fixed unless adjustable dead band requirement is noted in the Instrument Device Schedule.
   4. Reset: Unit shall be of the automatic reset type unless noted otherwise in the Instrument Device Schedule.
   5. Over Range Protection: Over range protection to 150 percent of the maximum process line pressure.
   6. Output: Dual single pole double throw (SPDT) or dual double pole double throw (DPDT) switches as shown on the instrument device schedule. Switch rating shall be min 10 A at 230 VAC.

C. Physical:
   1. Housing: NEMA 4X (IP65) for non-hazardous areas. For installation in hazardous areas, housing shall be explosion proof approved for Class 1, Division 1, Groups C and D (EEx d IIB).
   2. Switch Assemblies: Hermetically sealed switches.

3. Wetted Parts: Type 316L stainless steel diaphragm, viton seals, Type 316 stainless steel connection port.

D. Accessories/Options Required:
1. Shutoff Valve: Provide a Type 316 stainless steel shutoff valve. Valve shall be by D/A Manufacturing, Anderson Greenwood, or Equal.
2. Where indicate on the instrument device schedule, provide a Type 316 stainless steel snubber for pulsation dampening.

E. Manufacturer(s):
1. Ashcroft
2. DwyerOmega
3. Wika
4. Pre-approved equal.

2.11 DO/MLSS SENSOR

A. Dissolved Oxygen Sensor
1. Type
   a. Polymetron amperometric sensor and cable.

2. Function/Performance
   a. Measurement range
      i. 0 to 2,000 ppb DO
   b. Repeatability
      i. ± 0.5 ppb or ± 5%, whichever is greater
   c. Sensitivity
      i. < 0.5 ppb
   d. Detection Limit
      i. <1 ppb
   e. Temperature range
      i. 0–45 °C (32–113 °F)
   f. Temperature accuracy
      i. ± 0.5 °C
   g. Temperature repeatability
      i. ±0.2 °C
3. Environmental Requirements
   a. Operating Temperature: -4.0 to 140.0 °F (-20.0 to 60.0 °C)
   b. Storage Temperature: 32 to 140 °F (0 to 60°C)
   c. Relative humidity: 10 to 95%, non-condensing
4. Physical
   a. Sensor consists of a sensor contained in stainless steel or PVC, depending on model, with a silicon wiper blade and integral cable.
   b. 10-meter integral cable.
5. Options/Accessories Required
   a. Compatibility with Hach Model sc4500 controllers.
6. Manufacturer(s)
   a. Hach Model LDO Dissolved Oxygen Sensor

B. Mixed Liquor Suspended Solid Sensor

1. Type
   a. Probe with a dual-beam infrared/scattered light photometer. Infrared Duo scattered light technique for color-independent turbidity measurement. Turbidity in accordance with DIN EN ISO 7027 / TSS equivalent DIN 38414
2. Function/Performance
   a. Measurement range
      i. Turbidity: 0.001 to 4000 NTU
      ii. Suspended solids: 0.001 to 5000.0 mg/L or 0.001 to 50.0 g/L (ts-line or inline), or 0.001 to 500.000 mg/L or 0.000001 to 500 g/L (hs line or highline)
   b. Accuracy
      i. Turbidity: Less than 1% of reading or ±0.001 NTU, whichever is greater
      ii. Suspended solids: Less than 5% of reading (depends on homogeneity of municipal activated sludge)
   c. Repeatability
      i. Turbidity: Less than 1% of reading
      ii. Suspended solids: Less than 3% of reading (depends on homogeneity of municipal activated sludge)
   d. Detection limit
      i. Turbidity: 0.001 NTU
      ii. Suspended solids: 0.001 mg/L
   e. Response time: Initial response 1 second
   f. Signal Averaging Time: User selectable ranging from 1 to 300 seconds
   g. Units of measure:
      i. Turbidity: User Selectable NTU, FNU, EBC, FTU and TE/F
      ii. Suspended Solids: User Selectable g/L, mg/L, ppm, or % solids
3. Environmental Requirements
   a. Sample flow velocity: 3 m/s (9.8 ft./s) maximum
   b. Sample pressure: 6 bar (87 psi) maximum
   c. Sample temperature: 0 to 40 degrees C
   d. Operating temperature: 0 to 40 degrees C
4. Physical
   a. Sensor consists of a sensor contained in stainless steel or PVC, depending on model, with a silicon wiper blade and integral cable.10-meter integral cable.
5. Options/Accessories Required
   a. Compatibility with Hach Model sc4500 controllers.
6. Manufacturer(s)
   a. Hach Solitax Series

2.12 DO/MLSS ANALYZER

A. Probe/Sensor Controller
1. Type:
   a. Microprocessor-based sensor controller that works with digital sensors.
   b. The controller accepts up to eight (8) sensor inputs.
2. Functional/Performance:
   a. The controller is equipped with a real-time clock.
   b. The controller is equipped with two security levels.
   c. The controller is equipped with a data logger that can output to a storage card or directly to a computer hard drive.

d. The controller can be equipped with an SD card reader for data download and controller software upload.
e. The controller can have software updated through a direct network connection
f. Four electromechanical, UL rated, SPDT relays (Form C) can be installed for user-configurable contacts rated 100 to 250 Vac, 5 Amp at 30 VDC resistive maximum.
g. The following can be programmed:
h. The controller can be equipped with up to twelve 0/4-20mA outputs with a maximum impedance of 500 ohms per probe module.
i. The probe module can be equipped with the following forms of communication:
   i. Ethernet

3. Physical:
   a. Controller enclosure shall be IP65 rated. The controller shall be installed in a NEMA 4X enclosure with a view window and Shade Aide attachment for UV protection. The Shade Aide shall be sized accordingly in respect to the view window.
4. Environmental Requirements
   a. Operational Criteria
      i. Operating temperature: -4 to 131 °F (-20 to 55°C)
      ii. Storage Temperature: -4 to 158 °F (-20 to 70°C)
      iii. Humidity Requirements: 0 to 95% relative humidity, non-condensing
5. Power Requirements:
   a. The transmitter shall be 120 VAC powered instrument.
6. Manufacturer:
   a. Hach Model SC4500 Controller

2.13 SOLENOID VALVES

A. Solenoid valves shall be electrically operated, have a 304 stainless steel body and bonnet, ¾" NPT connection (modify per vendor supplied equipment package), and packless construction, without packing box or sliding seal.

B. Solenoid coils shall be either 24 VDC or 120 VAC dependent on control wiring characteristics, normally closed, encapsulated, Class H, for continuous duty at rated voltage and 40 degrees Celsius ambient in a NEMA 4 enclosure.

C. Solenoid valves shall be ASCO Redhat General Service 8210 series valves. Coordinate with manufacturer or vendor packaged system on size and type of valve needed. Provide manual bypass valves and piping for all solenoid valves installed.

2.14 SPARE PARTS AND ACCESSORIES

A. General requirements for spare parts are specified in Section 13300.

B. Furnish following field Instrument related Spare Parts:
1. One flow indicating transmitter for each type of flow element provided.
2. One level indicating transmitter for each type of level element provided.
3. One temperature transmitter for each type provided.
4. One pressure transmitter for each type provided.
5. One spare ultrasonic level switch for each type provided.
6. One spare float type level switch for each type provided.
7. One spare gas detection system sample pump module for each type provided.

8. Miscellaneous: One year supply of items recommended by the manufacturer of the equipment including all reagents, pH probes, batteries, chart paper, calibration standards as needed to operate and maintain the furnished equipment.

C. Furnish following Accessories:
1. All mounting hardware required for pipe stand, surface, or other mounting.
2. Each instrument shall be provided with a manufacturer installed stainless steel tag identifying the instrument tag number.

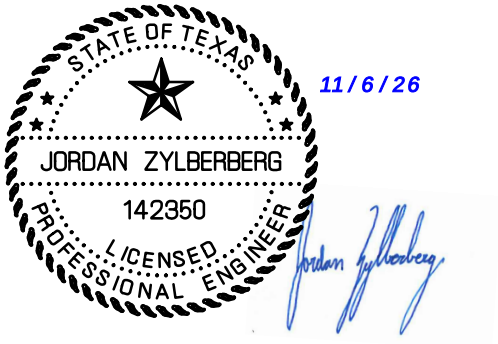
PART 3 – EXECUTION

3.1 GENERAL

A. See execution requirements in Section 13300.

B. Unless specifically indicated, direct reading or electrical transmitting instrumentation shall not be mounted on process piping. Instrumentation shall be mounted on instrument racks or stands. All instrumentation connections shall be provided with shutoff and drain valves. For differential pressure transmitters, 5-valve manifolds for calibration, testing and blow down service shall also be provided. For chemical or corrosive fluids, diaphragm seals with flushing connections shall be provided.

END OF SECTION



SECTION 15101
BUTTERFLY VALVES

PART 1 – GENERAL

1.1 SCOPE

A. This section includes provisions of all labor, materials and equipment to furnish and install butterfly valves and accessories, including training and testing, for a complete and operable system as shown on the construction drawings and specified herein. Refer to related work specified in other sections to coordinate the complete installation.

1.2 RELATED SECTIONS

A. All sections of the contract documents and technical specifications are related sections. Failure to review contract documents and technical specifications does not relieve the Contractor, Supplier, or Manufacturer of complying with the requirements therein.

1.3 REFERENCES

A. Referenced Standards:
1. American Water Works Association (AWWA)
2. American National Standards Institute (ANSI)
3. American Society of Mechanical Engineers (ASME)
4. ASTM International (ASTM)
5. NSF International (NSF)
6. International Organization for Standardization (ISO)
7. Underwriters Laboratory (UL)

1.4 SUBMITTALS

A. Refer to Section 15100 - Valve Basic Requirements.

1.5 QUALITY ASSURANCE

A. Refer to Section 15100 - Valve Basic Requirements.

1.6 WARRANTY

A. Refer to Section 15100 - Valve Basic Requirements.

1.7 DELIVERY, STORAGE AND HANDLING

A. Refer to Section 15100 - Valve Basic Requirements.

PART 2 – PRODUCTS

2.1 GENERAL

A. Items in Specification Section 15100 – Valve Basic Requirements apply.

B. Provide butterfly valves which are specifically designed for the application as indicated in the construction drawings.

C. Furnish butterfly valves of standard dimensions, built to formed templates, such that parts will be interchangeable between like units.

2.2 PERFORMANCE REQUIREMENTS

A. Butterfly Valve Table Abbreviations
   1. Valve Type
      a. AWWA: AWWA Butterfly Valve
      b. AIR: Air Service Butterfly Valve
      c. HP: High Performance Air Service Butterfly Valve
   2. Connection Type
      a. FJ: Flange Joint
      b. MJ: Mechanical Joint
      c. MF: Mechanical Joint x Flange Joint
      d. WF: Wafer
      e. LG: Lug
   3. Service
      a. Refer to Fluid Abbreviations listed in the General Abbreviations Sheet
   4. Operator Type
      a. OL: Operating Lever
      b. HW: Handwheel
      c. CW: Chainwheel
      d. EA: Electric Actuator
      e. PA: Pneumatic Actuator
   5. Classified Area
      a. C1D1: Class I, Division I
      b. C1D2: Class I, Division II
      c. U: Unclassified

B. Butterfly Valve Table

Valve No.	P&ID	Area	Valve Size (in)	Valve Type	Connection Type	Service	Operator Type	Geared Operator (Y/N)	Modulating Actuator (Y/N)	Classified Area
BFV-04-002	4-I-1	Peak Shaving Basin	6	AIR	WF	AIR	OL	Y	N	N/A
BFV-05-301	5-I-1	Aeration Basins	10	AIR	WF	AIR	OL	N	N	N/A
BFV-05-302	5-I-1	Aeration Basins	6	AIR	WF	AIR	OL	N	N	N/A
BFV-05-303	5-I-1	Aeration Basins	6	AIR	WF	AIR	OL	N	N	N/A
BFV-05-304	5-I-1	Aeration Basins	6	AIR	WF	AIR	OL	N	N	N/A
BFV-06-301	6-I-1	Clarifiers	4	AIR	LG	AIR	OL	N	N	N/A
BFV-09-601	9-I-1	Blowers	10	HP	LG	AIR	HW	N	N	N/A
BFV-09-602	9-I-1	Blowers	10	HP	LG	AIR	HW	N	N	N/A
BFV-09-003	9-I-1	Blowers	16	HP	LG	AIR	HW	Y	N	N/A
BFV-09-004	9-I-1	Blowers	16	HP	LG	AIR	HW	Y	N	N/A
BFV-14C-001	14C-I-1	Dewatering Facility	6	DR	FJ	DR	HW	N	N	N/A
BFV-15-001	N/A	Reclaimed Water Storage Station	4	HP	FJ	NPW	HW	Y	N	N/A

2.3 AWWA BUTTERFLY VALVES

A. Acceptable Manufacturers
1. Provide AWWA butterfly valves of one of the following, no others will be allowed:
   a. DeZurik
   b. GA Industries
   c. Kennedy Valve
   d. Keystone
   e. Pratt
   f. Val-Matic
2. Listing as an acceptable manufacturer will not relieve the Manufacturer from conforming to these specifications.
3. If multiple units are required per type of butterfly valve, all units shall be of a common manufacturer.

B. Standard Compliance
1. Valves shall be designed, manufactured, and tested in accordance with ANSI/AWWA C504 and C516.
2. Valves used in applications with potable water or water that will be treated to become potable shall be certified to meet NSF/ANSI/CAN Standard 61 or Manufacturer can provide certification of conformance with requirements of NSF/ANSI/CAN Standard 61 by a third-party organization accredited by ANSI.
3. Manufacturer shall have a quality management system that is certified to ISO 9001 by an accredited, certifying body.

C. Construction
1. Body
   a. Valve bodies shall be ASTM A126 Class B gray iron or ASTM A536 Grade 65-45-12 ductile iron.
   b. Valves shall be either wafer-style or full-bodied as specified in the Gate Valve Table. Full-bodied valves shall have either flange or mechanical joint connections as specified. Flanges shall be fully faced and drilled in accordance with ANSI Standard B16.1, Class 125, and mechanical joints shall be in accordance with ANSI A221.11/AWWA C111.
2. Shaft
   a. Shaft shall be ASTM A276 Type 304 stainless steel.
   b. Shaft seals shall be V-type or “U” cup-type and shall be replaceable without removal of the valve from the installation or the shaft from the valve body. The operator shall not be utilized to retain the packing and leakage shall be prevented from entering the actuator.
   c. Valves size 3-inch to 24-inch shall have through-type shafts. Valves 30-inch and larger shall have stub-type shafts.
   d. The shaft shall be locked to the disc by stainless steel taper pins and nuts and sealed by O-rings.
3. Disc
   a. Disc shall be ASTM A536 Grade 65-45-12 ductile iron with a Type 316 stainless steel seat edge.
   b. Disc shall be solid without external ribs or stiffeners.
   c. Disc shall provide 360-degree uninterrupted seating.
4. Seat
   a. Resilient seats shall be Buna-N or EPDM.
   b. Valves shall have field adjustable and replaceable seats fastened in place by Type 316 stainless steel retainer, studs, and self-locking nuts.
   c. Seats retained using epoxy or adhesives are not allowed.
5. Bearings
   a. Valves shall have PTFE or nylon upper and lower self-lubricating shaft bearings.
   b. Adjustable composite thrust bearings shall be provided on valves 30 inches and larger.

6. Hardware and Fasteners
   a. All hardware and fasteners shall be Type 316 stainless steel.

D. Coatings
1. Valves shall be provided with an external protective shop prime epoxy coating for delivery and storage purposes. Valves shall be prepared and coated in accordance with Section 09921 – Protective Coating once installed.
2. Lining shall be an NSF/ANSI/CAN Standard 61 certified two-part polyamide epoxy at a minimum 8 mils DFT.

2.4 AIR SERVICE BUTTERFLY VALVES (< 250 °F)

A. Acceptable Manufacturers
1. Provide air service butterfly valves of one of the following, no others will be allowed:
   a. DeZurik
   b. GA Industries
   c. Kennedy Valve
   d. Pratt
   e. Val-Matic
2. Listing as an acceptable manufacturer will not relieve the Manufacturer from conforming to these specifications.
3. If multiple units are required per type of butterfly valve, all units shall be a common manufacturer.

B. Construction
1. Body
   a. Valve bodies shall be ASTM A126 Class B gray iron or ASTM A536 Grade 65-45-12 ductile iron for flanged valves and ASTM A48 Class 40 for wafer style valves.
   b. Valves shall be lugged or wafer style or have fully faced and drilled flanges as specified. Flanges shall be in accordance with ANSI Standard B16.1, Class 125.
2. Shaft
   a. Shaft shall be ASTM A276 Type 304 stainless steel.
   b. Shaft seals shall be V-type or “U” cup-type and shall be replaceable without removal of the valve from the installation or the shaft from the valve body. The actuator shall not be utilized to retain the packing or and leakage shall be prevented from entering the actuator.
   c. Valves size 3-inch to 24-inch shall have through-type shafts. Valves 30-inch and larger shall have stub-type shafts.
   d. The shaft shall be locked to the disc by stainless steel taper pins and nuts and sealed by O-rings.
3. Disc
   a. Shall be ASTM A536 Grade 65-45-12 ductile iron with a Type 316 stainless steel seat edge.
   b. Shall be solid discs without external ribs or stiffeners.
   c. Disc shall provide 360-degree uninterrupted seating.
4. Seat
   a. Resilient seats shall be EPDM.
   b. Valves shall have field adjustable and replaceable seats fastened in place by Type 316 stainless steel retainer, studs, and self-locking nuts.
   c. Seats retained using epoxy or adhesives are not allowed.
5. Bearings
   a. Shall have composite upper and lower self-lubricating shaft bearings.
   b. Adjustable composite thrust bearings shall be provided on valves 30 inches and larger.

6. Hardware and Fasteners
   a. All hardware and fasteners shall be Type 316 stainless steel.

C. Coatings
1. Valves shall be provided with an external protective shop prime epoxy coating for delivery and storage purposes. Valves shall be prepared and coated in accordance with Section 09921 – Protective Coating once installed.

2.5 HIGH PERFORMANCE AIR SERVICE BUTTERFLY VALVES (> 250 °F)

A. Acceptable Manufacturers
1. Provide high performance butterfly valves of one of the following, no others will be allowed:
   a. DeZurik
   b. Pratt
2. Listing as an acceptable manufacturer will not relieve the Manufacturer from conforming to these specifications.
3. If multiple units are required per type of butterfly valve, all units shall be a common manufacturer.

B. Construction
1. Body
   a. Valve bodies shall be constructed of 316 stainless-steel ASTM A351.
   b. Valve body shall be cast lugged or wafer configuration with a minimum of four guide holes.
   c. Valves shall be rated for a minimum of 150 psi operating pressure.
2. Shaft
   a. Shaft shall be Type 17-4 stainless steel.
   b. Shafts shall be one piece locked to the disc by stainless steel taper pins and nuts and sealed by O-rings.
   c. Shaft seals shall be V-type and shall be replaceable without removal of the valve from the installation or the shaft from the valve body. The actuator shall not be utilized to retain the packing or and leakage shall be prevented from entering the actuator.
3. Disc
   a. Shall be A351 Type 316 stainless steel and shall be offset.
   b. Shall be solid discs without external ribs or stiffeners.
   c. Disc shall provide 360-degree uninterrupted seating.
4. Seat
   a. Seat shall be PTFE, RTFE, or FKM polymer seat.
   b. Seats shall be retained in the body and must be replaceable without removing the disc or stem.
5. Bearings
   a. Shall have composite upper and lower self-lubricating shaft bearings.
   b. Adjustable composite thrust bearings shall be provided on valves 30 inches and larger.
6. Hardware and Fasteners
   a. All hardware and fasteners shall be Type 316 stainless steel.

2.6 OPERATORS

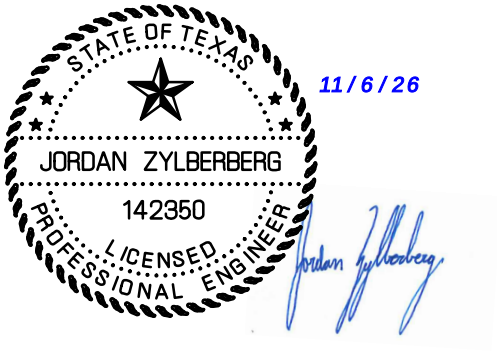
A. Provide factory-mounted operators, adjusted, and tested in accordance with AWWA C504.

B. Refer to Paragraph 2.2 and Section 15100 – Valve Basic Requirements.

PART 3 – EXECUTION

Refer to Section 15100 - Valve Basic Requirements.

END OF SECTION



SECTION 15102
GATE VALVES

PART 1 – GENERAL

1.1 SCOPE

A. This section includes provisions of all labor, materials and equipment to furnish, and install gate valves and accessories, including training and testing for a complete and operable system as shown on the construction drawings and specified herein. Refer to related work specified in other sections to coordinate the complete installation.

1.2 RELATED SECTIONS

A. All sections of the contract documents and technical specifications are related sections. Failure to review contract documents and technical specifications does not relieve the Contractor, Supplier, or Manufacturer of complying with the requirements therein.

1.3 REFERENCES

A. Referenced Standards:
1. American Water Works Association (AWWA)
2. American National Standards Institute (ANSI)
3. American Society of Mechanical Engineers (ASME)
4. ASTM International (ASTM)
5. NSF International (NSF)
6. International Organization for Standardization (ISO)
7. Underwriters Laboratory (UL)
8. Manufacturers Standardization Society (MSS)

1.4 SUBMITTALS

A. Refer to Section 15100 - Valve Basic Requirements.

1.5 QUALITY ASSURANCE

A. Refer to Section 15100 - Valve Basic Requirements.

1.6 WARRANTY

A. Refer to Section 15100 - Valve Basic Requirements.

1.7 DELIVERY, STORAGE AND HANDLING

A. Refer to Section 15100 - Valve Basic Requirements.

PART 2 – PRODUCTS

2.1 GENERAL

A. Items in Specification Section 15100 – Valve Basic Requirements apply.

B. Provide gate valves which are specifically designed for the application as indicated in the construction drawings.

C. Furnish gate valves of standard dimensions, built to formed templates, such that parts will be interchangeable between like units.

2.2 PERFORMANCE REQUIREMENTS

A. Gate Valve Abbreviations

1. Valve Type
   a. RG: Resilient Seat Gate Valve
   b. KG: Knife Gate Valve
   c. SGB: Small Diameter Gate Valve – Bronze
   d. SGS: Small Diameter Gate Valve – Stainless Steel
2. Connection Type
   a. FJ: Flange Joint
   b. MJ: Mechanical Joint
   c. MF: Mechanical Joint x Flange Joint
   d. PO: Push-On
   e. TD: Threaded
3. Service
   a. Refer to Fluid Abbreviations listed in the General Abbreviations Sheet
4. Operator Type
   a. ON: Operating Nut
   b. HW: Handwheel
   c. CW: Chainwheel
   d. EA: Electric Actuator
   e. PA: Pneumatic Actuator
5. Stem Configuration
   a. OSY: Outside Stem & Yoke
   b. NRS: Non-Rising Stem
6. Classified Area
   a. C1D1: Class I, Division I
   b. C1D2: Class I, Division II
   c. U: Unclassified

B. Gate Valve Table

Valve No.	P&ID	Area	Valve Size (in)	Valve Type	Connection Type	Service	Operator Type	Geared Operator (Y/N)	Modulating Actuator (Y/N)	Stem Configuration	Classified Area
KGV-03-001	3-I-1	Headworks	12	RG	FJ	RS	HW	Y	N	NRS	N/A
GV-14B-001	14B-I-1	NPW System	4	RG	FJ	NPW	HW	N	N	NRS	N/A

2.3 RESILIENT SEAT GATE VALVES

A. Acceptable Manufacturers:

1. Provide resilient seat gate valves of one of the following, no others will be allowed:
   a. American Flow Control
   b. Clow Valve
   c. J&S Valve
   d. Pratt
2. Listing as an acceptable manufacturer will not relieve the Manufacturer from conforming to these specifications.
3. If multiple units are required per type of gate valve, all units shall be a common manufacturer.

B. Standard Compliance:
1. Valves shall be designed, manufactured, and tested in accordance with ANSI/AWWA C509 and C515.
2. Valves used in applications with potable water or water that will be treated to become potable shall be certified to meet NSF/ANSI/CAN Standard 61 or Manufacturer can provide certification of conformance with requirements of NSF/ANSI/CAN Standard 61 by a third-party organization accredited by ANSI.
3. Manufacturer shall have a quality management system that is certified to ISO 9001 by an accredited, certifying body.

C. Construction:
1. Body and Bonnet:
   a. Valve bodies, bonnets, and stuffing boxes shall be ASTM A536 Grade 65-45-12 ductile iron or ASTM A126 cast iron.
   b. Valve shall be rated for 250 psi operating pressure.
   c. Valves 14-inch and larger shall include integral carbon steel lifting eyes.
   d. Bonnet shall seal to the body via an EPDM O-ring.
   e. All internal hardware shall be stainless steel unless specified otherwise.
2. Stem:
   a. Operating stems shall be threaded bronze or stainless steel.
   b. Stems shall be sealed with multiple EPDM O-rings.
3. Disc and Track:
   a. Discs shall be ASTM A536 Grade 65-45-12 ductile iron encapsulated by EPDM. Disc nut shall be Bronze.
   b. Valves 30-inch and larger shall have stainless steel side tracks with stainless steel or bronze rollers and bronze scrapers.
4. Connections:
   a. Connections shall be flanged in accordance with ANSI Standard B16.1, Class 125 flanges, mechanical joint in accordance with ANSI A221.11/AWWA C111, or push-on as specified in the Gate Valve Table.
   b. All hardware and fasteners shall be Type 316 stainless steel.

D. Coatings:
1. Valves shall be provided with an external protective shop prime epoxy coating for delivery and storage purposes. Valves shall be prepared and coated in accordance with Section 09921 – Protective Coating once installed.
2. Lining shall be an NSF/ANSI/CAN Standard 61 certified two-part polyamide epoxy at a minimum 8 mils DFT.

2.4 KNIFE GATE VALVES

A. Acceptable Manufacturers:
1. Provide knife gate valves of one of the following, no others will be allowed:
   a. Wey
2. Listing as an acceptable manufacturer will not relieve the Manufacturer from conforming to these specifications.
3. If multiple units are required per type of gate valve, all units shall be a common manufacturer.

B. Standard Compliance:
1. Valves shall be designed, manufactured, and tested in accordance with MSS-SP-81 and AWWA C520-10.
2. Manufacturer shall have a quality management system that is certified to ISO 9001 by an accredited, certifying body.

C. Construction:
1. Body and Yoke:
   a. Valve bodies, bonnets, and glands shall be Type 316 Stainless Steel.
   c. Valve shall be rated for 150 psi operating pressure.
   d. Seat shall be integrally cast stainless steel.
   e. Yoke leg and block shall be cast stainless steel with a flat top design to allow for conversion of actuators.
   f. Gland shall be cast 304 stainless steel fastened to the body with Stainless Steel hardware.
   g. Packing material shall be PTFE lubricated synthetic fiber with a minimum of four rows.
2. Stem:
   a. Operating stems shall be threaded 304 stainless steel.
   b. Stem nut shall be brass or bronze.
3. Gate:
   a. Gate shall be 316 stainless steel with a round beveled seating edge.

4. Connections:
   a. Connections shall be flanged in accordance with ANSI Standard B16.5, Class 125 flanges.
   b. All hardware and fasteners shall be Type 316 stainless steel.

2.5 SMALL DIAMETER GATE VALVES – BRONZE

A. Acceptable Manufacturers:
1. Provide bronze gate valves of one of the following, no others will be allowed:
   a. Apollo
   b. Nibco
   c. Milwaukee Valve
2. Listing as an acceptable manufacturer will not relieve the Manufacturer from conforming to these specifications.
3. If multiple units are required per type of gate valve, all units shall be a common manufacturer.

B. Standard Compliance:
1. Valves shall be designed, manufactured, and tested in accordance with MSS SP-80.

2. Valves used in applications with potable water or water that will be treated to become potable shall be certified to meet NSF/ANSI/CAN Standard 61 or Manufacturer can provide certification of conformance with requirements of NSF/ANSI/CAN Standard 61 by a third-party organization accredited by ANSI.
3. Manufacturer shall have a quality management system that is certified to ISO 9001 by an accredited, certifying body.

C. Construction:
1. Body, Disc, and Bonnet:
   a. Valve bodies, discs, and bonnets shall be ASTM B62 bronze.
   b. Stuffing box, gland, and gland nut shall be brass or bronze.
   c. Valve shall be rated for 200 psi operating pressure.
2. Stem:
   a. Operating stems shall be brass or bronze.
3. Connections:
   a. Connections shall be National Pipe Thread (NPT) in accordance with ANSI B1.20.1.

2.6 SMALL DIAMETER GATE VALVES – STAINLESS STEEL

A. Construction:
1. Body, Disc, and Bonnet:
   a. Valve bodies, discs, bonnets, and gland nut shall be ASTM A351 CF8M stainless steel.
   b. Gland shall be AISI 304 stainless steel.
   c. Valve shall be rated for 200 psi operating pressure.
   d. Body seal and stem packing shall be PTFE.
2. Stem:
   a. Operating stems shall be threaded AISI 316 stainless steel.
3. Connections:
   a. Connections shall be National Pipe Thread (NPT) in accordance with ANSI B1.20.1.

2.7 OPERATORS

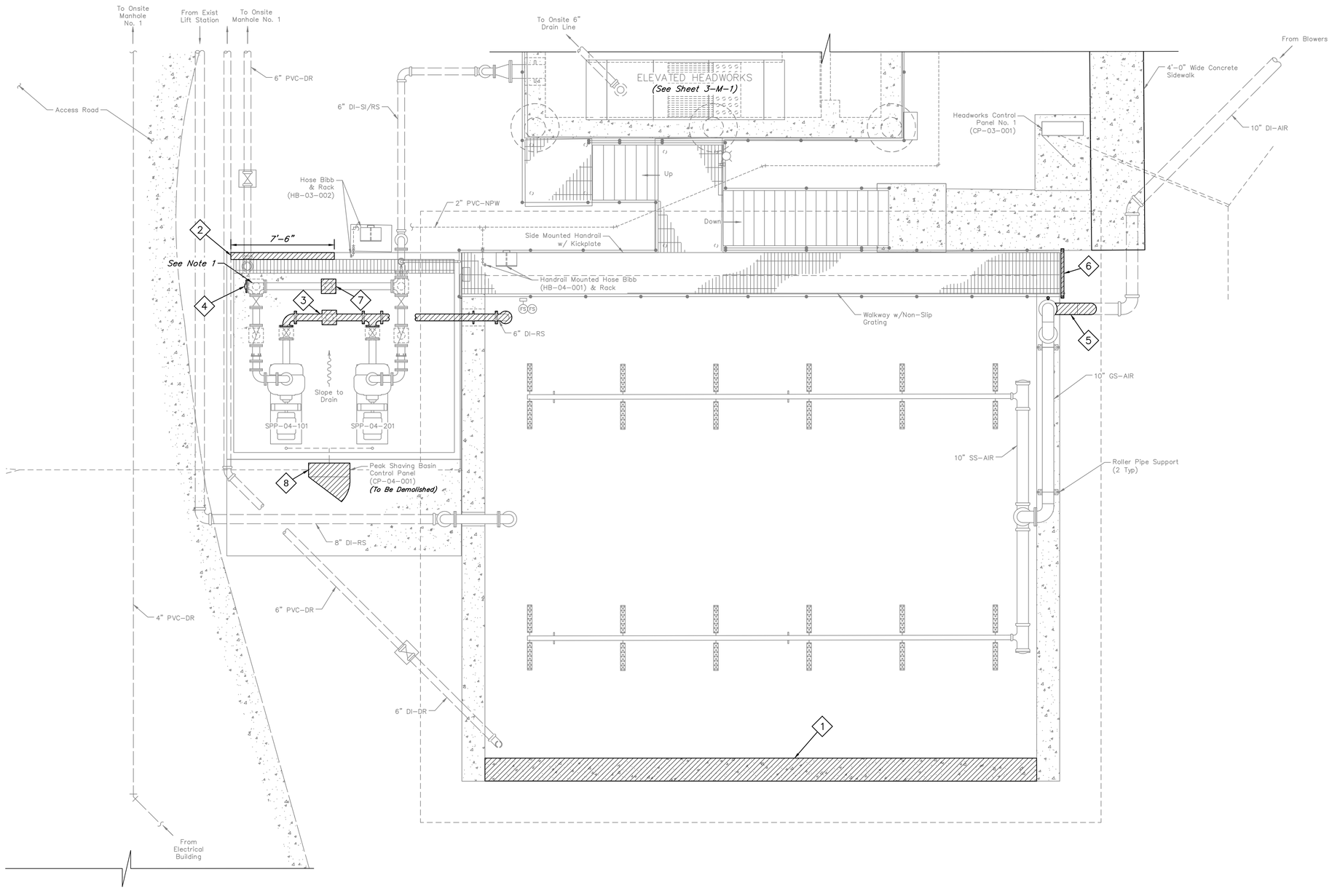
A. Refer to Paragraph 2.2 and Section 15100 - Valve Basic Requirements.

PART 3 – EXECUTION

Refer to Section 15100 - Valve Basic Requirements.

END OF SECTION

0 1 2 3 4 5 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



0 1 2 4 8 12
SCALE: 1/4" = 1'

ITEMS OF WORK

No.	DESCRIPTION
1	Demolish existing western Peak Shaving Basin wall (See Structural Sheets). The wall shall not be demolished until work on the basin expansion is complete, including concrete leak testing.
2	Demolish existing 6" concrete curb (See Structural Sheets).
3	Demolish existing 6" DI-RS including all fittings and supports. Grout fill the wall pipe penetration.
4	Demolish existing 6" blind flange.
5	Demolish existing 10" GS-AIR as required to install proposed 10" GS-AIR and fittings.
6	Demolish existing handrail as required to tie into the proposed handrail (See Structural Sheets).
7	Relocate existing pipe support.

ELECTRICAL ITEMS OF WORK

No.	DESCRIPTION
8	Demolish existing Peak Shaving Basin control panel. Proposed contol panel to be installed in the same location as the existing control panel. The proposed control panel will reuse the existing conductors and aboveground conduit.

LEGEND:

TO BE DEMOLISHED

NOTES:

1. Exist 6"x6" Tee to be rotated 90° counterclockwise (See Sheet 4-M-2).
2. Contractor to coordinate with Operator on degritting and cleaning required for the proposed work. Contractor shall assume removal of the bottom eighteen inches (18") of grit removal in the basin for bidding purposes. (1)

NO.	DATE	REVISIONS	APP.
1	11/26/26	Rev. Per Add. No. 2: Note 2	JZ

WILBARGER CREEK M.U.D. No. 2
TRAVIS COUNTY, TEXAS

WASTEWATER TREATMENT PLANT EXPANSION TO 1.5 MGD

PEAK SHAVING BASIN DEMOLITION PLAN

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
912 South Capital of Texas Hwy, Suite 300 • Austin, TX 78746 • 512.441.9493

SCALE:	1/4" = 1'-0"	DGN. BY:	ZKELL
DATE:	JUNE 2026	DWN. BY:	JSTRUHAR
JOB NO.	0A651-0021-02	DWG. NO.	
SUBMITTED:		SURV. BY:	
		F.B. NO.	

For Electrical Items Only:

STATE OF TEXAS · BAO LE THIEN TRAN · 149385 · LICENSED PROFESSIONAL ENGINEER
07/02/2026

STATE OF TEXAS · JORDAN ZYLBERBERG · 142350 · LICENSED PROFESSIONAL ENGINEER
11/6/26

4-M-1
SHEET NO. 63 OF 230

C:\Users\JAS\DC\ACCDocs\Quiddity\0A651-0021-02 _ WILBARGER WWTP EXP. 1.5 MGD\Project Files\PLANS\MECH-A4.dwg, Jun 26, 2026 - 11:29am, JAS

0 1 2 3 4 5 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

WILBARGER WWTP - AREA No. 14 - DEWATERING FACILITY

No.			Size	Conduit Size & Wire: Power	Ground	Control	Instrumentation	Description	Origin	Destination	Comments
								480V			
14	P	001	2.5"	3-350 KCMIL	#3			SWITCHBOARD No. 1 (SW-14-001) POWER FEEDER	EXIST MOTOR CONTROL CENTER No. 1 (MCC-12-001)	SW-14-001	
14	P	100	1.5"	3-#1/0	#6			VOLUTE PRESS CONTROL PANEL (CP-14D-101) POWER FEEDER	SW-14-001	CP-14D-101	
14	P	101	1"	3-#12	#12			FLOCCULATION MIXER No. 1 (FCT-14D-101) POWER FEEDER	CP-14D-101	FCT-14D-101	
14	P	102	1"	3-#12	#12			FLOCCULATION MIXER No. 2 (FCT-14D-102) POWER FEEDER	CP-14D-101	FCT-14D-102	
14	P	103	1"	3-#12	#12			FLASH MIXER (FCT-14D-103) POWER FEEDER	CP-14D-101	FCT-14D-103	
14	P	104	1"	3-#12	#12			VOLUTE PRESS MOTOR No. 1 (VP-14D-101A) POWER FEEDER	CP-14D-101	VP-14D-101A	
14	P	105	1"	3-#12	#12			VOLUTE PRESS MOTOR No. 2 (VP-14D-101B) POWER FEEDER	CP-14D-101	VP-14D-101B	
14	P	106	1"	3-#12	#12			VOLUTE PRESS MOTOR No. 3 (VP-14D-101C) POWER FEEDER	CP-14D-101	VP-14D-101C	
14	P	107	1"	3-#12	#12			VOLUTE PRESS MOTOR No. 4 (VP-14D-101D) POWER FEEDER	CP-14D-101	VP-14D-101D	
14	P	108	1"	3-#12	#12			VOLUTE PRESS MOTOR No. 5 (VP-14D-101E) POWER FEEDER	CP-14D-101	VP-14D-101E	
14	P	109	1"	3-#12	#12			VOLUTE PRESS MOTOR No. 6 (VP-14D-101F) POWER FEEDER	CP-14D-101	VP-14D-101F	
14	P	110	1"	3-#12	#12			VOLUTE PRESS CONVEYOR MOTOR No. 1 (SCC-14D-101) POWER FEEDER	CP-14D-101	SCC-14D-101	
14	P	111	1"	3-#12	#12			VOLUTE PRESS CONVEYOR MOTOR No. 2 (SCC-14D-102) POWER FEEDER	CP-14D-101	SCC-14D-102	
14	P	112	1"	5-#10	#12			PRESS FEED PUMP No. 1 (DDP-14A-101) POWER FEEDER	CP-14D-001 & LP-14-001	DDP-14A-101	VIA PUMP NO. 1 DISCONNECT SWITCH (2-#10 FOR SPACE HEATER POWER)
14	P	113	1"	5-#10	#12			PRESS FEED PUMP No. 2 (DDP-14A-201) POWER FEEDER	CP-14D-001 & LP-14-001	DDP-14A-201	VIA PUMP NO. 2 DISCONNECT SWITCH (2-#10 FOR SPACE HEATER POWER)
14	P	114	1"	3-#12	#12			(PBU-14C-101) POWER FEEDER	CP-14D-001	PBU-14C-101	
14	P	115	1"	3-#12	#12			(MXR-14C-101) POWER FEEDER	CP-14D-001	MXR-14C-101	
14	P	116	1"	3-#12	#12			(PBU-14C-201) POWER FEEDER	CP-14D-001	PBU-14C-201	
14	P	117	1"	3-#12	#12			(MXR-14C-201) POWER FEEDER	CP-14D-001	MXR-14C-201	
14	P	200	1.5"	3-#1	#6			37.5 KVA TRANSFORMER (XFMR-14-001) POWER FEEDER	SW-14-001	XFMR-14-001	
14	P	300	1"	3-#10	#12			DEWATERING BUILDING WINCH (WCH-14-101) POWER FEEDER	SW-14-001	WINCH (WCH-14-101) VENDOR CONTROL PANEL	
14	P	301	1"	VENDOR CABLE				DEWATERING BUILDING WINCH (WCH-14-101) POWER FEEDER	WINCH (WCH-14-101) VENDOR CONTROL PANEL	WCH-14-101	
14	P	400	1"	3-#12	#12			ROLL-UP DOOR MOTOR POWER FEEDER	SW-14-001	ROLL-UP DOOR VENDOR CONTROL PANEL	
14	P	401	1"	VENDOR CABLE				ROLL-UP DOOR MOTOR POWER FEEDER	ROLL-UP DOOR VENDOR CONTROL PANEL	ROLL-UP DOOR MOTOR	
14	P	500	1"	3-#10	#12			DEWATERING FANS CONTROL PANEL POWER FEEDER	SW-14-001	DEWATERING FANS CONTROL PANEL	
14	P	501	1"	3-#12	#12			SUPPLY FAN No. 1 (SFAN-14-001) POWER FEEDER	DEWATERING FANS CONTROL PANEL	SFAN-14-001	
14	P	502	1"	3-#12	#12			SUPPLY FAN No. 2 (SFAN-14-002) POWER FEEDER	DEWATERING FANS CONTROL PANEL	SFAN-14-002	
14	P	503	1"	3-#12	#12			SUPPLY FAN No. 3 (SFAN-14-003) POWER FEEDER	DEWATERING FANS CONTROL PANEL	SFAN-14-003	
14	P	504	1"	3-#12	#12			SUPPLY FAN No. 4 (SFAN-14-004) POWER FEEDER	DEWATERING FANS CONTROL PANEL	SFAN-14-004	
14	P	600	1"	3-#10	#12			DEWATERING NPW CONTROL PANEL (CP-14B-001) POWER FEEDER	SW-14-001	CP-14B-001	
14	P	601	1"	3-#12	#12			DEWATERING NPW BOOSTER PUMP No. 1 (VMP-14B-101) POWER FEEDER	CP-14B-001	VMP-14B-101	
14	P	602	1"	3-#12	#12			DEWATERING NPW BOOSTER PUMP No. 2 (VMP-14B-201) POWER FEEDER	CP-14B-001	VMP-14B-201	
								120/240V			
14	P	002	1"	2-#12	#12			DEWATERING AREA LIGHTS POWER FEEDER	LP-14-001	DEWATERING AREA LIGHTS	
14	P	003	1"	2-#12	#12			DEWATERING AREA RECEPTACLES POWER FEEDER	LP-14-001	DEWATERING AREA RECEPTACLES	
14	P	004A	1"	2-#8	#10			DEWATERING AREA SPACE HEATER POWER FEEDER	LP-14-001	EUH-14-001	EACH SPACE HEATER SHALL BE WIRED TO INDIVIDUAL CKTs ON LP-14-001.
14	P	004B	1"	2-#8	#10			DEWATERING AREA SPACE HEATER POWER FEEDER	LP-14-001	EUH-14-002	EACH SPACE HEATER SHALL BE WIRED TO INDIVIDUAL CKTs ON LP-14-001.
14	P	004C	1"	2-#8	#10			DEWATERING AREA SPACE HEATER POWER FEEDER	LP-14-001	EUH-14-003	EACH SPACE HEATER SHALL BE WIRED TO INDIVIDUAL CKTs ON LP-14-001.
14	P	005	1"	2-#12	#12			ELECTRICAL ROOM LIGHTS POWER FEEDER	LP-14-001	ELECTRICAL ROOM LIGHTS	
14	P	006	1"	2-#12	#12			ELECTRICAL ROOM RECEPTACLES POWER FEEDER	LP-14-001	ELECTRICAL ROOM RECEPTACLES	
14	P	007	1"	2-#12	#12			DEWATERING DUMPSTER AREA LIGHTS POWER FEEDER	LP-14-001	DEWATERING DUMPSTER AREA LIGHTS	
14	P	008	1"	2-#12	#12			DEWATERING DUMPSTER AREA RECEPTACLES POWER FEEDER	LP-14-001	DEWATERING DUMPSTER AREA RECEPTACLES	
14	P	009	1"	2-#12	#12			24-HOUR LIGHT TIMER POWER FEEDER	LP-14-001	24-HOUR LIGHT TIMER	
14	P	010	1"	2-#8	#10			A/C UNIT (HVAC-14-001) POWER FEEDER	LP-14-001	HVAC-14-001 DISCONNECT SWITCH	
14	P	011	1"	2-#8	#10			A/C UNIT (HVAC-14-001) POWER FEEDER	HVAC-14-001 DISCONNECT SWITCH	HVAC-14-001	
14	P	012	1"	2-#12	#12			FLOWMETER (FIT-14A-101) POWER FEEDER	CP-14D-101	FIT-14A-101	
14	P	013	1"	2-#12	#12			LEVEL TRANSMITTER (LT-14D-101) POWER FEEDER	CP-14D-101	LT-14D-101	
14	P	014	1"	2-#12	#12			LEVEL TRANSMITTER (LT-14D-102) POWER FEEDER	CP-14D-101	LT-14D-102	
14	P	201	2.5"	3-#4/0	#4			LIGHTING PANEL (LP-14-001) POWER FEEDER	XFMR-14-001	LP-14-001	
14	P	505	1"	2-#12	#12			CIRCULATION FAN (CFAN-14-001) POWER FEEDER	DEWATERING FANS CONTROL PANEL	CFAN-14-001	
								INSTRUMENTATION			
14	I	001	1"		#12	2-#14		EYEWASH STATION (EWS-14B-001) FLOW SWITCH ALARM SIGNAL	CP-14B-001	EWS-14B-001	
14	I	002	1"				1-1 PR#18 TSP	SUPPLY FAN No. 1 (SFAN-14-001) DIFF. PRESSURE SENSOR SIGNAL	CP-10-001	SFAN-14-001	
14	I	003	1"				1-1 PR#18 TSP	SUPPLY FAN No. 2 (SFAN-14-002) DIFF. PRESSURE SENSOR SIGNAL	CP-10-001	SFAN-14-002	
14	I	004	1"				1-1 PR#18 TSP	SUPPLY FAN No. 3 (SFAN-14-003) DIFF. PRESSURE SENSOR SIGNAL	CP-10-001	SFAN-14-003	
14	I	005	1"				1-1 PR#18 TSP	SUPPLY FAN No. 4 (SFAN-14-004) DIFF. PRESSURE SENSOR SIGNAL	CP-10-001	SFAN-14-004	
14	I	100	1"				CAT 6 ETHERNET	VOLUTE PRESS CONTROL PANEL (CP-14D-101) SIGNALS	CP-14D-101	CP-10-001	
14	I	101	1"		#12		1-1 PR#18 TSP	FLOCCULATION MIXER LEVEL TRANSMITTER (LT-14D-101) SIGNAL	CP-14D-101	LT-14D-101	
14	I	102	1"		#12		1-1 PR#18 TSP	FLOCCULATION MIXER LEVEL TRANSMITTER (LT-14D-102) SIGNAL	CP-14D-101	LT-14D-104	
14	I	103	1"		#12	2-#14		MIXER TANK HIGH LEVEL (LSH-14D-102) LOCKOUT SIGNAL	CP-14D-101	LSH-14D-101	
14	I	104	1"		#12	2-#14		SOLENOID VALVE No. 1 (SV-14D-101A) SIGNAL	CP-14D-101	SV-14D-101A	
14	I	105	1"		#12	2-#14		SOLENOID VALVE No. 2 (SV-14D-101B) SIGNAL	CP-14D-101	SV-14D-101B	
14	I	106	1"		#12	2-#14		SOLENOID VALVE No. 3 (SV-14D-101C) SIGNAL	CP-14D-101	SV-14D-101C	
14	I	107	1"		#12	2-#14		SOLENOID VALVE No. 4 (SV-14D-101D) SIGNAL	CP-14D-101	SV-14D-101D	
14	I	108	1"		#12	2-#14		SOLENOID VALVE No. 5 (SV-14D-101E) SIGNAL	CP-14D-101	SV-14D-101E	
14	I	109	1"		#12	2-#14		SOLENOID VALVE No. 6 (SV-14D-101F) SIGNAL	CP-14D-101	SV-14D-101F	
14	I	110	1"		#12	2-#14		SCREW CONVEYOR E-STOP (ES-14D-102) SIGNAL	CP-14D-101	ES-14D-102	
14	I	111	1"		#12	2-#14		SCREW CONVEYOR E-STOP (ES-14D-103) SIGNAL	CP-14D-101	ES-14D-103	
14	I	112	1"		#12	2-#14		VOLUTE PRESS E-STOP (ES-14D-101) SIGNAL	CP-14D-101	ES-14D-101	
14	I	113	1"		#12		1-1 PR#18 TSP	DEWATERING PRESS FEED PUMP FLOW (FIT-14A-101) SIGNAL	CP-14D-101	FIT-14A-101	
14	I	114	1"		#14	4-#14		PRESS FEED PUMP No. 1 PRESSURE SWITCH (PS-14A-101) SIGNAL	CP-14D-101	PS-14A-101	
14	I	115	1"		#14	4-#14		PRESS FEED PUMP No. 2 PRESSURE SWITCH (PS-14A-201) SIGNAL	CP-14D-101	PS-14A-201	
14	I	116	1"		#14	2-#14		PRESS FEED PUMP No. 1 VIBRATION SENSOR (VSH-14A-101) SIGNAL	CP-14D-101	VSH-14A-101	
14	I	117	1"		#14	2-#14		PRESS FEED PUMP No. 2 VIBRATION SENSOR (VSH-14A-201) SIGNAL	CP-14D-101	VSH-14A-201	
14	I	118	1"		#12	20-#14		DEWATERING FANS CONTROL PANEL DISCRETE SIGNALS	CP-10-001	DEWATERING FANS CONTROL PANEL	
14	I	119	1"		#12	6-#14	1-1 PR#18 TSP	POLYMER BLENDING UNIT No. 1 (PBU-14C-101) SIGNALS	PBU-14C-101	CP-14D-101	
14	I	120	1"		#12	6-#14	1-1 PR#18 TSP	POLYMER BLENDING UNIT No. 2 (PBU-14C-201) SIGNALS	PBU-14C-201	CP-14D-101	
14	I	121	1"	PULLSTRING				SPARE CONDUIT	IPB-12-001	DEWATERING ELECTRICAL ROOM	
14	I	122	1"	PULLSTRING				SPARE CONDUIT	IPB-12-001	DEWATERING ELECTRICAL ROOM	
14	I	123	1"	PULLSTRING				SPARE CONDUIT	IPB-12-001	DEWATERING ELECTRICAL ROOM	
14	I	124	1"	PULLSTRING				SPARE CONDUIT	IPB-12-001	DEWATERING ELECTRICAL ROOM	
14	I	600	2"		#12	30-#14		DEWATERING NPW CONTROL PANEL (CP-14B-001) SIGNALS	CP-14B-001	CP-14D-101	
14	I	601	1"		#12	4-#14		DEWATERING NPW BOOSTER PUMP No. 1 PRESSURE SWITCH (PS-14B-101) SIGNAL	CP-14B-001	PS-14B-101	
14	I	602	1"		#12	4-#14		DEWATERING NPW BOOSTER PUMP No. 2 PRESSURE SWITCH (PS-14B-201) SIGNAL	CP-14B-001	PS-14B-201	

NOTES

Note *: Existing Conduit with Proposed Conductors.

NO.	DATE	REVISIONS	APP.
1	11/6/26	REVISIONS FOR ADDENDUM NO. 2	BLT

WILBARGER CREEK M.U.D. No. 2
TRAVIS COUNTY, TEXAS

WASTEWATER TREATMENT PLANT
EXPANSION TO 1.5 MGD

CONDUIT SCHEDULE
– SHEET 6 OF 6

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
912 South Capital of Texas Hwy, Suite 300 • Austin, TX 78746 • 512.441.9493

SCALE: NONE
DATE: SEPTEMBER 2026
JOB NO. 0A651–0021–02
SUBMITTED:

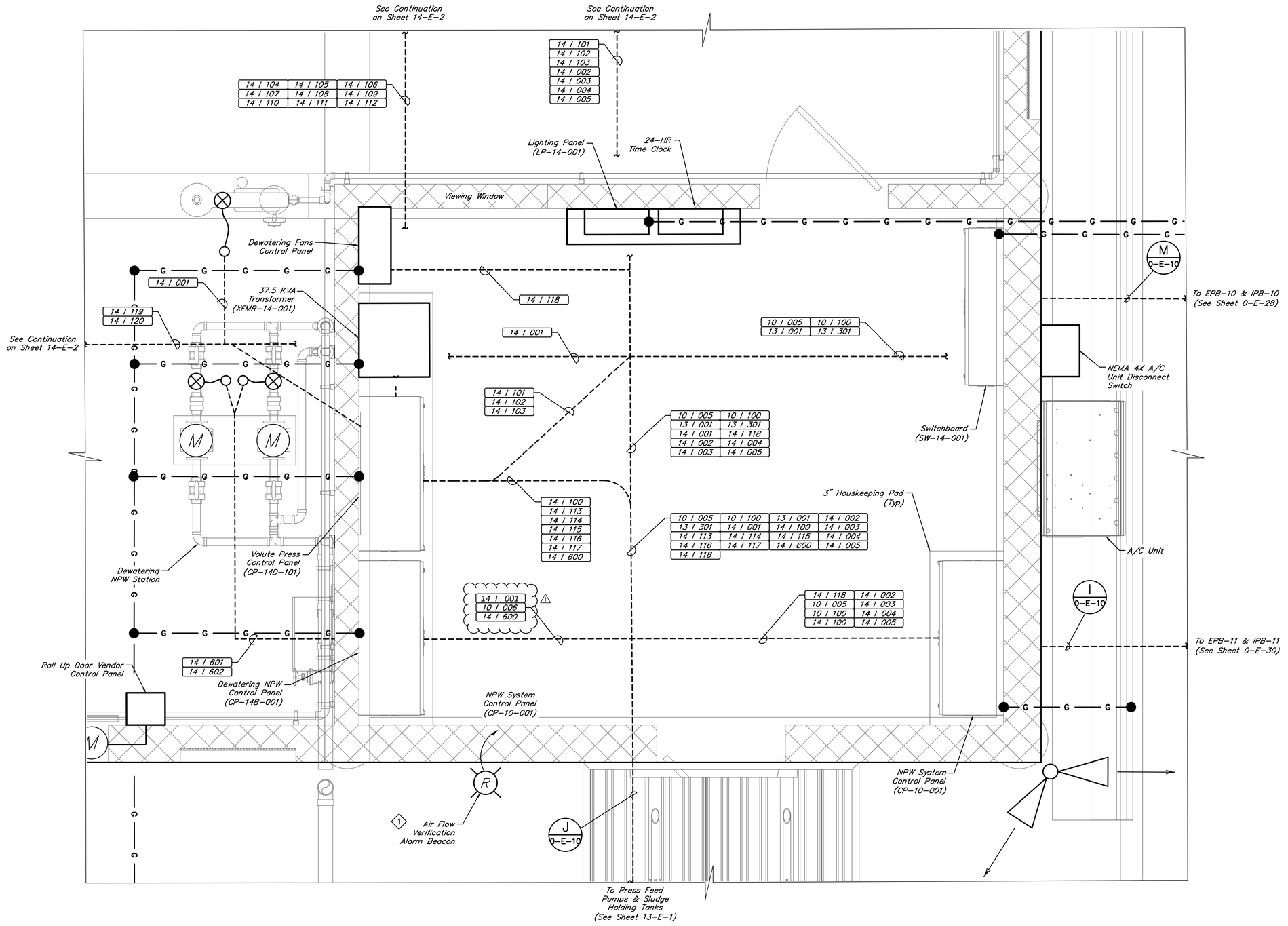
DGN. BY: EFLORES
DWN. BY: SSOMERS
DWG. NO.
SURV. BY:
F.B. NO.

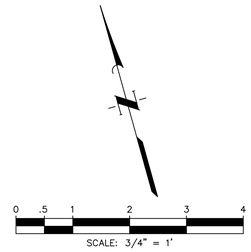
STATE OF TEXAS
BAO LE THIEN TRAN
149385
LICENSED
PROFESSIONAL ENGINEER
11/06/2026

0–E–9
SHEET NO. 155 OF 230

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ORIGINAL SCALE IN INCHES FOR REDUCED PLANS





GENERAL NOTES:

1. Not all conduits and wireways are shown for clarity. Refer to schedules, one-line diagram, and control schematics for conduit, wire size and quantity requirements.
2. All above ground conduit in Dewatering Area shall be PVC coated rigid galvanized steel (RGS).

ITEMS OF WORK	
No.	DESCRIPTION
1	Provide and install red beacon light 12 feet above finished grade with s.s. hardware. Field route 1" conduit with 2-#14 and #12 G from the alarm beacon to the PLC within the NPW System Control Panel.

NO.	DATE	REVISIONS	APP.
1	11/6/26	REVISIONS FOR ADDENDUM NO. 2	BLT

WILBARGER CREEK M.U.D. No. 2
TRAVIS COUNTY, TEXAS

WASTEWATER TREATMENT PLANT EXPANSION TO 1.5 MGD

DEWATERING BUILDING ELECTRICAL ROOM INSTRUMENTATION PLAN

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
912 South Capital of Texas Hwy, Suite 300 • Austin, TX 78746 • 512.441.9493

SCALE: 3/4" = 1'-0" | DGN. BY: EFLORES
DATE: JULY 2026 | DWN. BY: JSTRUHAR
JOB NO. 0A651-0021-02 | DWG. NO.
SUBMITTED: | SURV. BY:
F.B. NO.

STATE OF TEXAS
BAO LE THIEN TRAN
149385
LICENSED PROFESSIONAL ENGINEER
11/06/2026

14-E-6
SHEET NO. 210 OF 230

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ATTACHMENT NO. 1

CLOTH MEDIA FILTER EQUIPMENT
SCOPE OF WORK

WILBARGER CREEK MUNICIPAL UTILITY DISTRICT NO. 2
WASTEWATER TREATMENT PLANT EXPANSION TO 1.5 MGD

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
912 S. Capital of Texas Hwy, Suite 300 • Austin, TX 78746 • 512.441.9493

AQUA-AEROBIC SYSTEMS, INC.
A Metawater Company

Protecting the World's Water.

Proposal#: 185899

TO: **Quiddity**
912 S Capital of Texas Hwy Suite 300
Austin
Texas 78746
USA

ATN: **Zachary Cooper, PE**

CC: **Hartwell Environmental Corp. / ph#: 512/347-7676**
Lance LeBrun

PROJECT: WILBARGER CREEK MUD 2 TX

BID DATE: November 18, 2026

PROPOSAL DATE: November 10, 2026

The following Notes apply to Aqua-Aerobic Systems' proposal:

- We are pleased to quote, for acceptance within 60 days of this date, prices and terms on goods listed below.
- Equipment will be furnished by Aqua-Aerobic Systems with unloading of goods, civil work, and installation by the Buyer.
- This Proposal is for the addition of two (2) disks to the two (2) Aqua Disk Model 54 x 12/4E - PC Disk Filters located at Wilbarger Creek MUD #2.
- Reference: Specification Section (11340) - (CLOTH-MEDIA DISK FILTER)

Cloth Media Filters

AquaDisk Misc/Spare Parts

2 AquaDisk Model # ADFSC-54x12/4E-PC Upgrade(s) consisting of:

- Pile cloth media and non-corrosive support frame assemblies.
- Disk segment 304 stainless steel support rods.
- Media sealing gaskets.
- 304 stainless steel backwash shoe weldments.
- UHMW polyethylene backwash shoe nozzle plates.
- 1 1/2" flexible hose.
- Stainless steel hose clamps.
- Stainless steel backwash shoe springs.
- 304 stainless steel backwash collection manifold(s).
- 304 stainless steel union(s).
- 3" full port, two piece, ASTM A351 Grade CF8M stainless steel body ball valve(s), flanged end connections with single phase electric actuator(s). Valve / actuator combination shall be manufactured by TCI / RCI (RCI, a division of Rotork).

AquaDisk Engineering

1 Set(s) Documentation for the AquaDisk will be provided as described:

- Operation & Maintenance Manuals (English language) in electronic format.

AquaDisk Supervision/Freight Domestic

1 Supervision Services and Freight Package(s) for the AquaDisk will be provided as follows:

- 4 Day(s) On Site for Mechanical & Electrical Inspection, Check Out, Start Up of Filter and Panel
- 2 Trip(s) for Mechanical & Electrical Inspection, Check Out, Start Up of Filter and Panel
- Freight to Jobsite

The Following Notes apply to Aqua-Aerobic Systems' Proposal:

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- SCHEDULE: Schedule times are dependent on issuance of Purchase order with the following requirements: acceptable terms and conditions, guarantee of payment, all exceptions/clarifications provided have resolution and final drawings and specification sections have been provided to Aqua-Aerobic Systems.

We expect submittals to be completed and in transit to you within 8-10* weeks. We expect receipt of approved engineer's submittal with release for manufacture within 4-8 weeks of our transmittal of submittal data. We expect shipment of equipment (transit time excluded) to be approximately 16-22* weeks from our receipt of approved engineer's submittal data and release for manufacture. Schedules may be adjusted at time of order placement, depending upon existing order backlog. *Weeks quoted are actual working weeks.
- Schedule changes due to supply chain disruption may impact the above quoted times. Aqua-Aerobic Systems will advise if/when any such disruption applies.

- F.O.B. JOBSITE; TITLE AND RISK OF LOSS: All prices and all shipments of goods are F.O.B. Manor, TX. It is the responsibility of the Buyer to unload shipments and utilizing the packing list and bill of lading provided with the shipment notate shortages/damages upon receipt of the shipments and notify Aqua-Aerobic Systems in writing within 7 days of the shortages/damages to facilitate filing of a freight claim. Delivery of the goods sold hereunder by the carrier shall be deemed delivered to Buyer, and upon such delivery, title to such goods and risk of loss or damage shall be upon Buyer.

- TAXES: State and/or local taxes are not included in the price but will be charged unless we receive a valid sales exemption certificate, direct pay permit, or other documentation required specifically by the taxing entity prior to shipment.

- PAYMENT TERMS: Subject to credit approval and guarantee of payment, payment Net 30 days from date of each shipment; no retainage allowed.
- Additional supervision services can be provided for an additional charge of $1750/day plus travel and living expenses.

- Only the components specifically called out in this proposal will be supplied. All existing parts will be reused. These parts include but are not limited to:
- Centertube
- Influent and Effluent Weirs
- Gear motor and drives
- Existing Backwash/Sludge waste valves and actuators
- Backwash Pumps
- Existing Filter Cloth Frames
- Control panels
- Pressure Transducer
- High Level Float

- Any modifications to the existing infrastructure, backwash piping system, are the responsibility of the General Contractor.

GOODS QUOTED ABOVE WILL BE SOLD SUBJECT ONLY TO THE TERMS AND CONDITIONS OF SALE SET FORTH HEREIN. ANY DIFFERENT OR ADDITIONAL TERMS ARE HEREBY OBJECTED TO.

Total Price:

Copyright 2026, Aqua-Aerobic Systems, Inc

TERMS AND CONDITIONS OF AQUA-AEROBIC SYSTEMS, INC. (A Metawater Company)

This offer and all of the goods and sales of Aqua-Aerobic Systems, Inc. are subject only to the following terms and conditions. The acceptance of any order resulting from this proposal is based on the express condition that the Buyer agrees to all the terms and conditions herein contained. Any terms and conditions in any order, which are in addition to or inconsistent with the following, shall not be binding upon Aqua-Aerobic Systems, Inc. This proposal and any contract resulting therefrom, shall be governed by and construed in accordance with the laws of the State of Illinois, without regard to conflicts of laws principles. Resale of any products purchased from - Aqua-Aerobic Systems, Inc, is not permitted without prior written agreement with Aqua-Aerobic Systems, Inc expressly consenting to such resale. Any party who sells a product purchased from Aqua-Aerobic Systems, Inc, is subject to the terms and conditions includedherein.

DURATION OF QUOTATION
This proposal of Aqua-Aerobic Systems, Inc. shall in no event be effective more than 30 days from date thereof, unless specifically stated otherwise, and is subject to change at any time prior to acceptance.

PROPRIETARY INFORMATION
This proposal, including all descriptive data, drawings, material, information and know-how disclosed by Aqua-Aerobic Systems, Inc. to Buyer in relation hereto is confidential information intended solely for the confidential use of Buyer, shall remain the property of Aqua-Aerobic Systems, Inc. and shall not be disclosed or otherwise used to the disadvantage or detriment of Aqua-Aerobic Systems, Inc. in any manner.

PAYMENT TERMS; ORDERS;
Unless specifically stated otherwise, quoted terms are Net 30 Days from invoice date. Past-due charges are 1.5% per month and will apply only on any past-due balance. Aqua-Aerobic Systems, Inc. does not allow retainage of any invoice amount, unless authorized in writing by an authorized representative of our Loves Park, Illinois office. Terms of payment are within Aqua-Aerobic Systems, Inc's sole discretion, and unless otherwise agreed to by Aqua-Aerobic Systems, Inc, payment terms must be accepted by Aqua-Aerobic Systems, Inc prior to Aqua-Aerobic Systems' acceptance of an order. Payment for the products must be made by approved credit card, check, wire transfer, or some other prearranged payment method unless credit terms have been agreed to by Aqua-Aerobic Systems, Inc. Invoices are due and payable within the time period noted on the invoice, measured from the date of the invoice. Orders are not binding until accepted by Aqua-Aerobic Systems, Inc.

SECURITY
If at any time the financial responsibility of the Buyer becomes unsatisfactory to Aqua-Aerobic Systems, Inc., or Aqua-Aerobic Systems, Inc. otherwise deems itself insecure as to receipt of full payment of the purchase price from Buyer hereunder, Aqua-Aerobic Systems, Inc. reserves the right to require payment in advance or security or guarantee satisfactory to Aqua-Aerobic Systems, Inc. of payment in full of the purchase price.

SHIPMENT
Shipping dates are not a guarantee of a particular day of shipment and are approximate, being based upon present production information, and are subject to change per the production schedules existing at time of receipt of purchase order. Aqua-Aerobic Systems, Inc. shall not be responsible for any delay in shipment for causes beyond its control including, but not limited to, war, riots, strikes, labor trouble causing interruption of work, fires, other casualties, transportation delays, modification of order, any act of governmental authorities or acts of God. Quoted shipment dates in this proposal are approximate dates goods will be shipped and, unless agreed to in writing by Aqua-Aerobic Systems, Inc., Buyer may not postpone or delay the dates of shipment of goods from our plant or from our supplier's plants beyond the dates set forth in this proposal. Buyer is required to notify Aqua- Aerobic Systems, Inc within 7-days of any discrepancies with shipment.

SHIPPING CHARGES; TAXES and OTHER RELATED FEES. Separate fees for shipping and handling will be charged on all purchases unless specifically stated otherwise. Prices quoted do not include any taxes, customs duties, or import fees. The Buyer is responsible for sales use and all other taxes and fees associated with the purchase. If aqua-Aerobic Systems, Inc. is required by any taxing authority to collect or to pay any such tax, duty or fee, the Buyer shall be separately billed at such time for the amounts Aqua-Aerobic Systems, Inc is required to pay

TITLE AND RISK OF LOSS
F.O.B. Destination - Delivery of goods to the destination shall be deemed delivery to the Buyer, and upon such delivery, title to such goods and risk of loss or damage shall be upon Buyer.

F.O.B. Aqua-Aerobic Systems, Inc's plant at Loves Park, Illinois - Delivery of the goods sold hereunder to the carrier shall be deemed delivery to the Buyer, and upon such delivery, title to such goods and risk of loss or damage shall be upon Buyer.

INSURANCE
Unless the goods are sold on a CIF basis, the Buyer shall provide marine insurance for all risks, including war and general coverage. Aqua-Aerobic Systems, Inc will provide evidence of coverage upon request. At no time will Aqua-Aerobic Systems, Inc issue a certificate of insurance listing Buyer as additional insured unless under fully executed contract and Aqua-Aerobic Systems, Inc is providing start-up services.

LIMITATION OF ACTION
No action shall be brought against Aqua-Aerobic Systems, Inc. for any breach of its contract of sale more than two years after the accrual of the cause of action thereof, and, in no event, unless the Buyer shall first have given written notice to Aqua-Aerobic Systems, Inc., of any claim of breach of contract within 30 days after the discovery thereof.

CANCELLATION CLAUSE
No acceptance of this proposal, by purchase order or otherwise, may be modified except by written consent of Aqua-Aerobic Systems, Inc. nor may it be canceled except by prior payment to Aqua-Aerobic Systems, Inc. the following sums as liquidated damages therefore: 1) If cancellation is prior to commencement of production and prior to the assumption of any obligations by Aqua-Aerobic Systems, Inc. for any materials or component parts, a sum equal to 15% of the total purchase price; 2) If cancellation is after the commencement of production or after the assumption of any obligations by Aqua-Aerobic Systems, Inc. for any materials or component parts, a sum equal to the total of the direct, out-of-pocket expenses incurred to the date of cancellation for labor, machine time, materials and any charges made to us by suppliers for cancellation, plus 30% of the total purchase price. All charges and expenses shall be as determined by Aqua-Aerobic Systems, Inc. In the event any items are used by Aqua-Aerobic Systems, Inc. to fill a subsequent order, then upon receipt of payment for such order, Aqua-Aerobic Systems, Inc. shall pay the Buyer a sum equal to the direct out-of-pocket expenses previously charged and received from Buyer.

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TERMS AND CONDITIONS OF AQUA-AEROBIC SYSTEMS, INC. (A Metawater Company)

QUALIFIED ACCEPTANCE AND INDEMNITY
In the event the acceptance of this proposal by Buyer either is contingent upon or subject to the approval by any third party such as, but not limited to, a consulting engineer, with respect to goods, parts, materials, descriptive data, drawings, calculations, or any other matter, then upon such approval by any third party, Aqua-Aerobic Systems, Inc. shall have no liability to Buyer or to any third party so long as the goods sold and delivered by Aqua- Aerobic Systems, Inc. conform to this proposal. In the event any such third party requires modifications in the proposal prior to the approval thereof, Aqua-Aerobic Systems, Inc. may at its sole option and without liability to any party elect to cancel this proposal or return the purchase order to Buyer. In the event Aqua-Aerobic Systems, Inc. elects to modify this proposal to conform to the requirements for approval by any third party, Aqua- Aerobic Systems, Inc. in such event shall have no liability to Buyer or to any third party so long as the goods sold and delivered by Aqua-Aerobic Systems, Inc. conform to this proposal as modified.

Buyer agrees to indemnify and save harmless Aqua-Aerobic Systems, Inc. from and against all costs and expenses and liability of any kind whatsoever arising out of or in connection with claims by third parties so long as the goods sold hereunder conform to the requirements of this proposal as approved by any third party.

WARRANTY; LIMITATION OF LIABILITY; AND DISCLAIMER
In return for purchase and full payment for Aqua-Aerobic Systems, Inc. goods, we warrant new goods provided by us to be free from defects in materials and workmanship under normal conditions and use for a period of one year from the date the goods are put into service, or eighteen months from date of shipment (whichever first occurs). If the goods include an "Endura Series" motor, the complete Endura Series unit shall be warranted by Aqua-Aerobic Systems, Inc to be free from defects in materials and workmanship under normal conditions and use for three years from the date the product is put into service or 42 months from the date of shipment (whichever occurs first).

OUR OBLIGATION UNDER THIS WARRANTY IS EXPRESSLY AND EXCLUSIVELY LIMITED to replacing or repairing (at our factory at Loves Park, Illinois) any part or parts returned to our factory with transportation charges prepaid, and which our examination shall show to have been defective. Prior to return of any goods or its parts to our factory, Buyer shall notify Aqua-Aerobic Systems, Inc. of claimed defect, and Aqua-Aerobic Systems, Inc. shall have the privilege of examining the goods at Buyer's place of business or where the goods have otherwise been placed in service. In the event this examination discloses no defect, Buyer shall have no authority to return the goods or parts to our factory for the further examination or repair. All goods or parts shall be returned to Buyer, F.O.B. Loves Park, Illinois. This warranty shall not apply to any goods or part which has been repaired or altered outside our factory, or applied, operated or installed contrary to our instruction, or subjected to misuse, chemical attack/degradation, negligence or accident. This warranty and any warranty and guaranty of process or performance shall no longer be applicable or valid if any product, including any software program, supplied by Aqua-Aerobic Systems, Inc., is modified or altered without the written approval of Aqua-Aerobic Systems, Inc. Our warranty on accessories and component parts not manufactured by us is expressly limited to that of the manufacturer thereof.

THE FOREGOING WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND OF ALL OTHER LIABILITIES AND OBLIGATIONS ON OUR PART, INCLUDING ANY LIABILITY FOR NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE; AND ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY DISCLAIMED; AND WE EXPRESSLY DENY THE RIGHT OF ANY OTHER PERSON TO INCUR OR ASSUME FOR US ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF ANY GOODS PROVIDED BY US. THERE ARE NO WARRANTIES OR GUARANTEES OF PERFORMANCE UNLESS SPECIFICALLY STATED OTHERWISE.

UNDER NO CIRCUMSTANCES, INCLUDING ANY CLAIM OF NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE, SHALL AQUA-AEROBIC SYSTEMS, INC. BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, COSTS OF CONNECTING, DISCONNECTING, OR ANY LOSS OR DAMAGE RESULTING FROM A DEFECT IN THE GOODS. LIMIT OF LIABILITY: AQUA-AEROBIC SYSTEMS, INC.'S TOTAL LIABILITY UNDER THE ABOVE WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF ANY DEFECTIVE PART. THE REMEDIES SET FORTH HEREIN ARE EXCLUSIVE, AND OUR LIABILITY WITH RESPECT TO ANY CONTRACT OR SALE, OR ANYTHING DONE IN CONNECTION THEREWITH, WHETHER IN CONTRACT, IN TORT, UNDER ANY WARRANTY, OR OTHERWISE, SHALL NOT, IN ANY CASE, EXCEED THE PRICE OF THE GOODS UPON WHICH SUCH LIABILITY IS BASED.

Final acceptance of this proposal must be given to Aqua-Aerobic Systems, Inc. at their office in Loves Park, Illinois. Please acknowledge acceptance by signing the proposal and returning it to Aqua-Aerobic Systems, Inc.

Accepted by:

Company: _____

By: _____ **Date:** _____

Offer Respectfully Submitted,

Thomas Mangione, AMS Senior Sales Engineer
Aqua-Aerobic Systems, Inc.

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ATTACHMENT NO. 2

HEADWORKS SCREENING EQUIPMENT
SCOPE OF WORK

WILBARGER CREEK MUNICIPAL UTILITY DISTRICT NO. 2
WASTEWATER TREATMENT PLANT EXPANSION TO 1.5 MGD

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
912 S. Capital of Texas Hwy, Suite 300 • Austin, TX 78746 • 512.441.9493

Scope of Supply

Project:
Wilbarger MUD No. 2 WWTP Expansion
Manor, TX

Specification:
11221 – PERFORATED PLATE SCREEN
11700 – SCREENINGS WASHER COMPACTOR

Equipment:
FSM Perforated Filter Screen Model FRSIII 700 x 75/6
SPECO WASTECOM™ Shaftless Spiral Conveyor/Compactor Model CPS200

Addenda:
1.

Represented By:
Hartwell Environmental Corporation
Lance LeBrun
Phone: 512-423-0643
Email: llebrun@hartwellenv.com

Regional Sales Manager:
SAVÉCO North America, Inc.
James Willson
Phone: 706-550-3431
Email: james.willson@savecowaterna.com

Project No.: WEC225201
November 9, 2026

SAVECO® North America, Inc.
Formerly Enviro-Care®
1570 St. Paul Ave.
Gurnee, IL 60031
P: 815.636.8306 • F:847.672.7968
www.enviro-care.com • ecsales@enviro-care.com

ITEM: "A" - One (1) FSM Perforated Filter Screen
Model FRSIII 700 x 75/6



BASIS OF DESIGN (EACH)

Application:	Municipal Wastewater
Peak Flow:	2.0 MGD
Screen Perforated Opening:	6 mm
Angle of Screen:	75 degrees from horizontal
Channel Width:	48 inches
Channel Depth:	5.5 feet
Downstream Water Level:	1.88 feet @ Peak flow
Headloss:	2.08 inches @ Peak flow with 0% blinding
	3.58 inches @ Peak flow with 30% blinding
Discharge Height:	4.1 feet (above top of channel)
Wash Water:	26 gpm at 40 – 60 psi
SCR (Screenings Capture Ratio):	85%

PERFORATED PANEL TRAVELING BELT SCREEN (EACH)

- Fully automatic self-cleaning FSM screen complete with all appurtenances – 316 stainless steel.
- Main frame constructed from type 316 stainless steel.
- Pivoting flanged baseplate for mounting screen assembly to top of channel and to allow screen to pivot out of channel, from type 316 stainless steel.
- Screen support rails from UHMW-PE provided front and back on each side of frame.
- Replaceable UHMW-PE seals mounted to each side of frame.
- Replaceable bottom seals – Buna-N rubber and triple layer polyester brush with 316 stainless steel adjustable holder.
- Perforated filter screen elements with 6 mm perforations from 3 mm thick (12 gauge) type 316 stainless steel, bolted to drive chain with 316 stainless steel bolt ny-lock nuts and washers.
- Screen drive roller chain from 316 stainless steel with specially hardened bushings, and pins from Duplex stainless steel and rollers from PA6.
- Stainless steel chain and screen elements driven by two (2) drive shaft mounted stainless steel sprockets with minimum thickness of 0.75 inches.
- Lower static guides from type 316 stainless steel.

- Drive tensioners – 316 stainless steel.
- Drive system to include 1.0 HP 1760 rpm TEFC (Class I, Division 2) geardrive motor suitable for 460/3/60 electrical supply.
- Nylon screen cleaning brush, automatic self-adjusting, with stainless steel drive shaft and 2.0 HP 1760 rpm TEFC (Class I, Division 2) geared motor suitable for 460/3/60 electrical.
- Rotary Deflector from type 316 stainless steel on back side of screen auxiliary driven by screen drive.
- Internal spray system to clean internal surfaces of screen panel from stainless steel with PVDF nozzles, complete with manual ball valve and solenoid valve.
- Removable 316 stainless steel odor control enclosures/covers.
- Screenings discharge chute with hinged hood – 316 stainless steel.
- Anchor bolts – 316 stainless steel.
- Fasteners – 316 stainless steel.
- Shop surface preparation, stainless steel full dip passivation.

CONTROL PANEL AND INSTRUMENTATION (EACH)

- One (1) NEMA 4X type 316 stainless steel wall mount main control panel suitable for 480/3/60 electrical supply. Control panel shall contain the following control devices for operation of the filter screen.
    1. Enclosure, Painted White
    2. Enclosure, Stand Kit
    3. Enclosure, Swing Out Panel Kit
    4. Enclosure, Voltage Divider, Lexan Type
    5. Enclosure, Data Pocket
    6. Main Disconnect, Circuit Breaker Type, Flanged Type
    7. Motor Branch Circuit Protection
    8. Motor Starter, NEMA Size 1, Non-Reversing, with Overload [Screen, Brush] (x2)
    9. Load Monitor [Screen]
    10. Phase Failure Relay
    11. Surge Protection, 480VAC
    12. Surge Protection, 120VAC
    13. Surge Protection, Analog
    14. Surge Protection, Ethernet
    15. Control Power Transformer, 480-120VAC w/ branch circuit protection
    16. LED Panel Light, w/Door Switch
    17. GFCI Convenience Receptacle
    18. PLC, Schneider Modicon M340 PLC
    19. Power Supply, 24VDC - Redundant Type
    20. 12" Schneider Harmony OIU – 5-Port, Unmanaged Phoenix Ethernet Switch
    21. UPS Battery Backup
    22. Elapsed Time Meters (x2)
    23. Heater w/ Thermostat
    24. Circuit breakers, 120VAC
    25. Pilot Lights, LED type
    26. Push Buttons

27. Selector Switches
28. Control Relays
29. Terminal Blocks
30. Dry Output Contacts
31. Intrinsically Safe Barrier: [Float Switch by others]
32. UL Certification
33. Sunshield
34. Air Conditioner (Non-hazardous)

- One (1) NEMA 7 Cast Aluminum Emergency Stop pushbutton station.
- One (1) NEMA 7 5-hole Local Control Station to control the following functions:
    1. Two (2) Screen/Brush Hand-Off-Auto selector switches.
    2. One (1) Press Hand-Off-Auto selector switch.
    3. One (1) Press Forward-Off-Reverse selector switch.
    4. Emergency stop pushbutton.

- One (1) motor cut-out switch: Interlock switch suitable for the area classification, mounted to the hinged hood.
- One (1) NEMA 7 120 VAC, brass body wash water solenoid valve.
- Differential Level Controller: One (1) LT500 HMI, Non-hazardous rated; level controller mounted next to control panel
    1. One (1) Hoffman, NEMA 4X Fiberglass enclosure with window
    2. Two (2) ultrasonic transducers, Siemens XPS-15F with 10m cable, rated for a Class I, Division 1 area.
- One (1) NEMA 7 pull-cord.
- One (1) limit switch, suitable for a NEMA 7 hazardous area, for detecting screen drive high torque.

SPARE PARTS (TOTAL)

- One (1) set of replacement cleaner brush elements.
- Two (2) spare screen elements.
- Spare Parts per 11320-2.8.B.

FIELD SERVICE (TOTAL)

- Site service of three (3) trips for a total of three (3) days for installation inspection, startup and operator training.

CLARIFICATIONS/COMMENTS

- SECTION 11221 2.4.D – For clarification, NEMA 8 is an older classification which is no longer in production. The emergency stop push buttons, switches, and solenoid valves provided shall be rated for a NEMA 7 environment.
- SECTION 11221 2.13 – For clarification, pump controls are to be done by others, not SAVECO.

- SECTION 11221 2.13 – For clarification, a float switch is not outlined as part of the controls, and Section 13340 notes that the float switch is provided by the contractor.
- SECTION 11221 2.13 – For clarification, the control panel is located outside of the hazardous area. Local controls shall be rated for a NEMA 7 environment.
- SECTION 11221 2.13 – For clarification, Drawing 3-E-1 shows the control panel in a non-hazardous area. If a Class I, Division 2 control panel is required, a pressure purge system will be required. The pressure purge system will require plant supplied clean dry, instrument grade compressed air.
- SECTION 11221 2.13.7 – For clarification, the PLC requirements listed in Section 13311 are listed for the current panel CP-12-101, but do not list requirements for the new screen control panel. The provided PLC is from Schneider Electric Modicon, per the acceptable manufacturers.
- SECTION 11221 2.13.8: For clarification, a manufacturer standard sun shield has been provided. If a custom sun shield is required as outlined in 13330-2.5.F, it will be done by others, not SAVECO.

OPTIONAL ITEMS

- None.

NOTE: ANY ITEM NOT LISTED ABOVE TO BE FURNISHED BY OTHERS

EXCLUSIONS

Taxes, electrical wiring, conduit or electrical equipment, piping, valves, or fittings, shimming material, lubricating oil or grease, shop or field painting, field welding, erection, hoist or lifting apparatus, detail shop fabrication drawings, performance testing, unloading, storage, concrete work, civil design, grating, platforms, stairs, hand railing, dumpster (except as specifically noted).

This proposal section has been reviewed for accuracy and is approved for issue:
By: Alexander Renken Date: November 9, 2026

ITEM: "B" - One (1) SPECO WASTECOM Shaftless Spiral Conveyor Compactor Model CPS200



BASIS OF DESIGN (EACH)

Application	Compact and Convey Screenings
Throughput Rate:	70 ft3/hr
Screw Diameter:	7 inches
Overall Length:	20.2 feet
Installation Angle:	7 degrees
Discharge Height:	1.6 feet
Wash Water Requirement:	8 GPM at 40-60 psi

SCREENINGS COMPACTOR (EACH)

- Inclined orientation.
- Push configuration.
- Three (3) vertical inlets.
- One (1) outlet to customer supplied dumpster.
- Shaftless spiral screw constructed from 316 stainless steel.
- Trough drainage module area located at lowest end from SINT® engineered polymer, 8 mm perforations, self-cleaning design with continuous contact with the shaftless spiral.

- U-trough construction from type 316 stainless steel.
- Except for the inlet portion, the conveyor is provided with bolted 1 mm thick type 316 stainless steel cover sections.
- Wear Bars will support the spiral throughout the trough length and be constructed from type 316 stainless steel. Wear bars shall be bolted to the inside along the longitudinal axis. Bolts and sealing washers shall be located on the outside of the transport tube.
- Compaction zone with cylindrical screen with 0.04-inch (1 mm) slotted openings combined with solid cylinder and covers from type 316 stainless steel.
- Compaction zone spray wash system with 0.5" connection to wash down the cylindrical screen and to flush solids down the drainpipe back to the channel.
- Compaction zone assembly cover shall be bolted and fabricated from type 316 stainless steel. A back-pressure iris plate from SINT® engineered polymer shall control the screenings dewatering and formed plug at the discharge end.
- Gear reducer drive unit with 2.0 HP TEFC (Class I, Division 2) motor suitable for 460/3/60 electrical supply.

CONVEYOR SUPPORTS (EACH)

- Support legs from type 316 stainless steel are supplied to support the screw compactor unit as required.

INLET HOPPER (EACH)

- Three (3) inlet hoppers constructed from type 316 stainless steel to receive material from screen discharge.

CONTROL PANEL AND INSTRUMENTATION (TOTAL)

- Controls for the shaftless spiral conveyor compactor to be included with the screen control panel.

- One (1) NEMA 7 120V brass body solenoid valve to control water spray functions.
- One (1) NEMA 7 Cast Aluminum emergency stop pushbutton.
- One (1) NEMA 7 pull-cord.

SPARE PARTS (TOTAL)

- None.

FIELD SERVICE (TOTAL)

- Provided with screen start-up services.

CLARIFICATIONS/COMMENTS

- SECTION 11700 - For clarification, all wetted and structural components, anchor bolts, and fasteners shall be constructed of type 316 stainless steel.

- SECTION 11700 2.3.C.2 - For clarification, motors shall be rated for operation in a Class I, Division 2 environment.
- SECTION 11700 3.4.B - For clarification, installation supervision, start-up and test services for the SAVECO CPS shall be combined with the screen start-up services.

OPTIONAL ITEMS

- None.

NOTE: ANY ITEM NOT LISTED ABOVE TO BE FURNISHED BY OTHERS.

EXCLUSIONS

Taxes, electrical wiring, conduit or electrical equipment, piping, valves, or fittings, shimming material, lubricating oil or grease, shop or field painting, field welding, erection, hoist or lifting apparatus, detail shop fabrication drawings, performance testing, unloading, storage, concrete work, civil design, grating, platforms, stairs, hand railing, dumpster (except as specifically noted).

This proposal section has been reviewed for accuracy and is approved for issue:
By: Alexander Renken Date: November 9, 2026

PROPOSAL

Item	Equipment	Price
A	One (1) FSM Perforated Filter Screen Model FRSIII 700 x 75/6	$
B	One (1) SPECO WASTECOM Shaftless Spiral Conveyor Compactor Model CPS200	$

Validity:
Prices are valid until January 29, 2027.

Warranty Statement and Term:
SAVÉCO North America, Inc. warrants the supplied equipment to the original end user against defects in workmanship or material under normal use and service in compliance with the original design specifications and the maintenance requirements and instructions as found in the Operations & Maintenance Manual. All SAVÉCO North America supplied equipment is warranted for 12 months from date of start-up or 18 months from date of shipment, whichever occurs first.

Warranty Exclusions:
This warranty does not cover costs for standard and/or scheduled maintenance performed, nor does it cover consumables and SAVÉCO North America parts that, by virtue of their operation, require replacement through normal wear (aka: Wear Parts), unless a defect in material or workmanship can be determined by SAVÉCO North America. Wear parts are defined as brushes, rollers, spray nozzles, drum seals and other items specifically identified in the Operations & Maintenance Manual.

Warranty Coverage:
SAVÉCO North America's liability is limited to the supply or repair of defective parts returned, freight prepaid by buyer to a location specified by SAVÉCO North America. Repaired or replacement parts will be shipped to buyer prepaid via standard ground freight. Express or expedited shipments will be at the expense of the buyer.

Exclusions and Exceptions:
This Warranty excludes damage or wear to equipment caused by misapplication of product, improper maintenance, accident, abuse, unauthorized alteration or repair, Acts of God, or installation or operation that is non-compliant with SAVÉCO North America installation and operations instructions.

Limited Liability:
SAVÉCO North America shall not under any circumstances be liable for any incidental or consequential damages arising from loss, damage to property, personal injury or other damage or losses owing to the failure of SAVÉCO North America's equipment. The liability of SAVÉCO North America, Inc. is limited as set forth above within the time period set forth above.

Terms: 15% with Submittal Approval
80% Net 30 Days after Shipment
5% Net 30 days after Startup. Startup not to exceed 180 days from equipment delivery.

Taxes: No sales or use taxes have been included in our pricing.

Freight: Prices quoted are F.O.B. shipping point with freight allowed to a readily accessible location nearest jobsite. Any claims for damage or loss in shipment to be initiated by purchaser.

Submittals: Full submittals will be supplied approximately **6 to 8 weeks** after receipt and acceptance of purchase order at the SAVÉCO North America offices. We allow **2-3 weeks** for submittal approval at which time we will commence fabrication of the equipment and controls.

Shipment: Shipment time is approximately **20 to 26 weeks** after approved submittal is received at the SAVÉCO North America offices. Under no circumstances will verbal approval be accepted.

Additional Field Service: This service may be scheduled at $1,600.00 per day plus expenses or is available through a yearly service contract.

Material of Construction: SAVÉCO North America is providing the equipment from the type of material specified for this project. If from 304L stainless steel the concentration of chloride and hydrogen sulfide (H2S) in the equipment operating environment shall be kept below the following values:

- Chloride <200 mg/L
- Hydrogen Sulfide (H2S) <6ppm

If not already done so, SAVÉCO North America can provide the equipment from 316L stainless steel for a price adder for environments that exceed the values noted above.

Please issue Purchase Orders to:
SAVÉCO® North America, Inc.
1570 St Paul Avenue
Gurnee, IL 60031

Attn: Todd Campbell
Phone: 224-302-0301
Email: todd.campbell@savecowaterna.com

ATTACHMENT NO. 3

VOLUTE DEWATERING PRESS EQUIPMENT
SCOPE OF WORK

WILBARGER CREEK MUNICIPAL UTILITY DISTRICT NO. 2
WASTEWATER TREATMENT PLANT EXPANSION TO 1.5 MGD

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
912 S. Capital of Texas Hwy, Suite 300 • Austin, TX 78746 • 512.441.9493

South Western Environmental Equipment Technicians
500 Saddlebrook Dr.
Lucas, TX 75002
(972) 489-2951
Email: cjcortez@sbcglobal.net

Proposal # VDPTX25175 REV 7

To: Quiddity

Attn: Jordan Zylberberg, PE
Phone: 737-247-7539
Email: amendoza@gbateam.com

Date: November 2, 2026
Terms: Per Proposal
Submittals: 8 Weeks ARO
Shipment: 22 Weeks from Approval
Price: Good through January 31, 2027

QTY	Description		Amount
	Project: Wilbarger Creek MUD # 2 WWTP Expansion to 1.5 MGD **PWTECH Volute Sludge Dewatering System Sized to Dewater up to 260 GPM of WAS at 0.75% Incoming Sludge in 40 Hour Week, 8 Hours, 5 Days/Week.**		
1	**PWTECH Volute Dewatering Press System** **Specification Sections: 11450, 11540, 11733, 11152** System Includes: - **Section 11450: One (1) Volute Dewatering Press**: PWTECH Model ES-356 in 304SS, Six (6) Drum Unit, Tag #: VP-14D-101 - **Influent Sludge Flowmeter:** Rosemount Model 8750W with 6" Flanges - **One (1) Volute Control System**: Pre-Wired, 480VAC/3PH/60Hz, in NEMA 4X 304SS ENCL with PLC and HMI - **Section 11540, Two (2) Polymer Preparation Systems:** VeloDyne VeloBlend VM-10P-1200-X0D , One Operational, One Standby. Tag #'s PBU-14C-101 and PBU-14C-201, Spare Parts per specification. Excludes Control in section 2.6. A NEMA 4X FRP Junction Box on the Polymer Preparation Skid is Pre-Wired to the Polymer Preparation Components and Includes Numbered Terminal Block with Terminal Block Legend Allowing for Easy On-site Connection to the Main Volute System Control Panel. - **Section 11733: One (1) Horizontal Conveyor System:** JDV Model U420, 560 Cubic Feet/Hour, 304SS, Approx. 17 ft in length, Tag #: SCC-14-101 and **One (1) Incline Conveyor System:** JDV Model U420, 560 Cubic Feet/Hour, 304SS, Approx. 17 ft in length, 20 degree incline, Tag #: SCC-14-102 - .**Section 11152: Two (2) Double Disc Diaphragm Pumps:** Penn Valley Pump Company Inc. Model 6DDSX107 Double Disc Volute Press Feed Pumps. Tag #'s DDP-14A-1012 and DDP-14A-201, Rated at 260 GPM @ 10' TDH, Pump, 6" Flanged, Cast Iron/Neoprene Elastomers, 15 HP Toshiba 1160 RPM 230/460/60/3 TEFC Severe Duty Inverter Ready Electric Motor with Internal Space Heaters, 180 RPM Max Pump Speed Via Belt & Pulley System, Suction/Discharge Pulsation Dampeners, 304SS Covers/Guards, 304SS Piggyback Motor Mount Pump Base, Two (2) Pressure Gauge Switch Assemblies, Two (2) Vacuum Gauge Switch Assemblies, Two (2) Set of Spare Parts, Pumps will be controlled by the Volute Control Panel with VFD's for Each Pump - **Documentation:** Submittals, O&M Manuals, Startup Report - **Field Services:** Start-up Services including Operation and Maintenance Training - **Delivery to Site**		**$1,705,000.00**

QUOTATION # VDPTX25175 REV 7

QTY	Description		Amount
	Project: Wilbarger Creek MUD # 2 WWTP Expansion to 1.5 MGD - **Payment Terms:** - 20% Net 30 – Approved Submittals - 70% Net 30 – Equipment Delivery - 5% Net 30 – Delivery of Final O&M Manuals - 5% Net 30 – Completion of Start-up, Testing, O&M Training **Exclusions:** - Taxes, Tariffs, Permits, and Bonding - Any Civil Work including, but not limited to, any building Works, construction of suitable foundations, and access structures. - Installation including, but not limited to, mechanical, plumbing and any electrical work. - Unloading of delivered equipment on site or storage. - PLC/HMI Programming Software unless specifically specified. - Engineer stamped drawings or seismic calculations except as otherwise noted. - Liquid Polymer Blending Unit, Section 11540 2,6 Controls		

Quotation By: Christopher J. Cortez

SCOPE

TO:	**Bidding Contractors**
PROJECT / REF:	**Wilbarger Creek M.U.D No 2 WWTP Expansion**
PROPOSAL TYPE:	Scope of supply
SPEC. SECTIONS:	11152 – DOUBLE DISC PUMPS 11450 - VOLUTE PRESS 11540 - LIQUID POLYMER BLENDING UNIT 11733 – SCREW CONVEYOR PLC will comply with S13311 Flowmeter will comply with S 13340 §2.1
DATE:	15 June 2026
PWT #:	VDP-TX-25175
REV:	6
SIZING INFORMATION:	Sized to dewater up to 546,000 gallons per week from 0.75% municipal WAS in 35 hours of operation (260 GPM).
MANUFACTURERS REP:	Chris Cortez South Western Environmental Equipment Technicians (SWEET) Cell: (972) 489-2951 cjcortez@sbcglobal.net
NOTES:	
REVISION NOTES:	Rev 2 – Added 15HP VFD for sludge feed pump Rev 3 – Added feed pumps and second pump VFD Rev 4 – Added Clarifications for Bid Rev 5 – Added 1” Washwater Header and valves Rev 6 – Elevated polymer system by ~ 30”. Upsized washwater valves to 1”
PREPARED BY:	Alex Davey

PROPOSAL CONTENT

- Scope of supply summary
- Scope Details
- Exceptions and Exclusions
- Governing Conditions and Warranty Notes
- Price
- PWTech Terms and Conditions and Warranty

SCOPE OF SUPPLY

Line	Qty.	Item	Manufacturer / Model / Description
1	1	Volute* Dewatering Press	PWTech - ES-356 – Tag # VP-14D-101
2	2	Polymer Preparation System	VeloDyne - VeloBlend VM-10P-1200-X0D Tag #'s PBU-14C-101 and PBU-14C-201
3	1	Influent Sludge flowmeter	Rosemount™ Model 8750W with 6" ANSI Flanges
4	1	Conveyor System	JDV U420 Shaftless Screw Conveyors Tag #'s SCC-14-101 and SCC-14-102
5	2	Double Disc Pumps	Penn valley Double Disc – Model 6DDSX107CNU Tag #'s DDP-14A-101 and PBU-14A-201
6	1	Control System for Item 1-4	PWTech
7		Documentation	Submittals, O&M manuals, Startup Report
8		Field services	Installation inspection, Commissioning, Testing and operator training
9		Delivery to site	

*Volute is registered with the U.S. Patent and Trademark Office as a registered trademark of AMCON, Inc., Yokohama, Japan

SCOPE DETAILS

1. Volute Dewatering Press - PWTech Model ES-356

Design

- The unit to be supplied will be an ES-356 with a MAXIMUM capacity of ~ 330 GPM from 0.75% sludge
- This unit will have 1" wash water headers and valves mounted on the floc tank. Hose connection to the drum wash showers is ¾" ID and showers use 3/8" pipeworks.

Components

- The Dewatering Press consists of:
  - Flash mixing tank including mixer with gear motor, high Level Switch and VFD's which will be located in the Control Panel.
  - Two (2) Flocculation tank including mixers with gear motors, level Instruments (one per tank) and VFD's which will be located in the Control Panel.
  - Six (6) x 350 Series Dewatering Drums with a drive motors and VFD's which will be located in the Control Panel.
  - Six (6) 1" Washwater Solenoid Valves
  - Filtrate collection pan and support frame.
- Connections are:
  - Inlet: DN 6" ANSI B16.5 Class 150 Flange
  - Filtrate outlet: Two (2) x DN 8" ANSI B16.5 Class 150 Flange
  - Drain: DN 4" ANSI B16.5 Class 150 Flange
  - Washwater Water inlet: 1" FNPT
  - Polymer solution Inlet: 1" FNPT

Materials and Construction

- The unit is all stainless steel. No carbon steel is used in the manufacture of the press.
- Unit is manufactured and assembled in the USA. All components are sourced from the USA or Japan.
- Electrical components are manufactured and tested prior to shipment to site in the United States.
- Dewatering drum gear drives are SEW Eurodrive gear motors utilizing helical-bevel gear reduction.
- Flocculation tank gear drives are Brother/Nissei GTR gear motors utilizing heloid gear reduction, one piece construction and are sealed for life.

Supplied spare parts

- One (1) washwater solenoid.

2. Polymer Preparation unit – Velodyne Model VM-10P-1200-X0D

Design

- Polymer Flow Range: 1 to 10 GPH
- Dilution Water Flow: 120 to 1200 GPH

Components

- Polymer Mixing Chamber:
  - VeloBlend VM - Staged Hydro-Mechanical
  - ½ HP, 230/460 VAC, 1750 RPM, Inverter ready Mixer motor
  - Mechanical Mixer Shaft Seal with seal flushing assembly
  - VeloCheck™ Neat Polymer Check Valve with Quick Release Pin
  - Pressure Rating of 100 psi with Pressure Relief Valve

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- Neat Polymer Delivery Assembly
  - A 15 GPH stainless steel & Viton progressive cavity metering pump shall be provided
  - ½ HP, 1750 RPM, 230/460 VAC, Inverter ready with gear reducer
  - Thermal type loss of polymer flow sensor
  - Metering pump calibration assembly with isolation valves: (500 ml)
- Dilution Water Inlet and Solution Outlet Assembly
  - Primary 180-1800 GPH rotameter controlled dilution water flow
  - Low differential pressure alarm switch
  - 0-160 psi inlet water pressure gauge (stainless steel, liquid filled)
  - Swing type PVC and Viton check valve
- Electrical Junction Box
  - All electrical components are pre-wired to an FRP junction box
  - A marked terminal strip is provided for landing all wiring for connection to the Volute Press Panel

Materials and Construction

- Mixing Chamber is Stainless Steel body and impeller with clear polycarbonate cover.
- Plumbing is Schedule 80 PVC
- Frame and fasteners are 304 stainless steel. Frame is open design for access to all components and is designed for bolt-down installation.
- Frame elevates polymer system by 30” off the floor– PLEASE NOTE that polymer source must be elevated to maintain flooded suction conditions.

Supplied spare parts

- One (1) complete set of tools required for normal operation and maintenance.
- One (1) set of gaskets and o-rings for all gasketed covers and connections.
- One (1) polymer injection valve.
- One (1) pump rotor, stator, and mechanical seal.
- One (1) repair kit for wear parts not specified.

3. Magnetic flowmeter, 6” Rosemount™ Model 8750W

Design

- 6” Flowmeter is designed for accurate measurement of flows between 180-1800 GPM
- Suitable for direct burial and constant flooding (IP 68).
- Includes Compact mounting of transmitter on the flowmeter body
- Flowmeter out-puts analogue signal (4-20 mA) to Volute Press Control panel

Components

- 6 inch ANSI 150# flange connections.
- Includes grounding rings

Materials and Construction

- Coated Carbon Steel construction with a polyurethane, ceramic, neoprene, or Teflon liner as required by the application.
- All metallic wetted parts are stainless steel type 316

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4. Conveyor system – JDV U420

Design

- Loading = 560 cubic feet per hour
- Conveyor #1 is designed to receive solids from the Volute Press and move them to Conveyor #2
- Conveyor #2 is designed to elevated cake solids and drop into a dump bin
- Anchorage calculations with supports and details signed and sealed by a licensed Professional Engineer in the State of Texas

Construction

- **U-Trough:** minimum 3/16” - 304SS
- **Trough Lids:** minimum 1/8” - 304SS - 304SS (Bolted / 4ft max with neoprene gasketing)
- **Trough Liners:** UHMW-PE, maximum 4ft lengths, minimum 3/8” thickness
- **Spiral:** 16 inch nominal OD, standard pitch, single high tensile bar
- **Included Hardware:** Assembly bolts, lock-washers and hex nuts – 304/316SS

Electrical components:

- One (1) Emergency stop switch c/w cable, mounting hardware, 120VAC NEMA 4
- Two (2) Loss of rotation (LOR) sensor

Conveyor #1: Collection

- 17 foot approximate length
- Horizontal configuration
- Two (2) rectangular inlet(s)
- One (1) discharge outlet to conveyor #2
- 5 HP Drive
- Floor Supports included

Conveyor #2: Inclined Load-out

- 17 foot approximate length
- Inclined configuration (~20 degrees)
- One (1) open end inlet
- One (1) rectangular discharge outlet to dump bin
- 7.5 HP Drive
- Floor Supports included

5. Penn Valley Pump - 6” Model 6DDSX107CNU-MK1 Double Disc Pump™

Design

- Duty: 195-260 gpm at 8-10 ft TDH
- Maintain-in-place hinged housing design for ease of maintenance
- Per drawing PVD728 Piggy-back motor mount

Components

- 6” ASA/ANSI 150# flanged suction and discharge connections
- Suction and Discharge pulsation dampener

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- 15 HP, 1160RPM 230-460/3/60 TEFC Severe duty, inverter ready motor with space heater
- 180 RPM Max pump speed achieved with V-belt and pulley drive
- Two-piece swan neck design with full port rigid clack valve
- 304SS Welded base with OSHA approved guards and covers
- Pump and dampeners coated with industrial primer and topcoat
- Cast iron housing and neoprene elastomers

Spare Parts

- Two (2) discs,
- two (2) trunnions,
- one (1) clack valve,
- one (1) disc tool,
- one (1) set v-belts
- one (1) set of gaskets

6. Electrical and Control

The Volute* unit is supplied with a pre-wired control panel designed to control all aspects of the thickening/dewatering operation unless otherwise specified and noted.

- Control panel is:
  - Fed by a single 208, 240, or 480VAC, 3-phase, 60 Hz, power supply (client specified)
    - Built with a Panel Short Circuit Current Rating (SCCR) of 25 KAIC
  - NEMA 4X rated manufactured in Stainless Steel type 304
  - Manufactured in a UL accredited facility and is UL listed
- Panel includes HMI and PLC control modules.
  - PLC is a Modicon M340
  - HMI is Model DT551 (Harmony GTU 10-inch):
  - HMI is programmed utilizing Ignition software
- All manual switching operations are undertaken via the HMI
- Unit includes complete control system for unit and ancillary equipment including operation of the polymer preparation system, conveyor system, and two (2) **15 HP VFD for control of the feed pumps**.
- Control system utilizes a system flow meter and PID loop to allow operator to set the system flow.
- Control panel includes system running and system fault outputs to plant PLC/SCADA and the ability to connect via Ethernet to external controls via network switch.
- A NEMA 4X FRP junction box on each of the polymer preparation skids are pre-wired to the polymer preparation components and includes numbered terminal block with terminal block legend allowing for easy on-site connection to the main Volute* system control panel.

Supplied spare parts

- One (1) PLC.
- One (1) lot I/O cards of each type..
- One (1) PLC Power supply.

7. Documentation:

Scope includes:

- Submittals (electronic) and
- O&M Manuals (hard copy and electronic).
- Startup Report

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- PLC/HMI Program (electronic copy) – does not include programming software

8. Field Services:

Scope includes the following start-up services -

- On-site start-up and training services for:
  - Two (2) trip each consisting of up to four (4) consecutive days (8 hours per day, Monday-Friday) by a PWT field service engineer and/or qualified manufacturer's representative
- Services include:
  - Installation inspection for all components under this scope
  - Commissioning of Volute* unit and all components under this scope.
  - Start-up of Ancillary equipment included in this Scope
  - Functional testing and calibration of equipment
  - Training on all equipment
- Phone consultation regarding installation will also be provided.
- Should additional services be deemed necessary by the PURCHASER, the additional services can be procured from PWT on a per diem basis. The current rate is $1000 per day plus travel.

9. Delivery and Freight

- Submittals issued approximately ten (10) weeks from receipt of written Purchase Order
- Delivery is approx. eighteen (18) weeks from receipt of written acceptance of Submittal documents
- Deliver to site for all components **is INCLUDED in the price**.
- Spare parts as specified in this scope will be invoiced for on delivery of the major equipment, but will be stored by PWTech and delivered to site separately upon startup of equipment.

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EXCLUSIONS AND EXCEPTIONS:

The Following items are specifically excluded from this scope unless specifically noted otherwise:

- Taxes, Tariffs, permits, and bonding
- Any civil works including, but not limited to, any building works, construction of suitable foundations, and access structures.
- Installation including, but not limited to, mechanical, plumbing, and electrical hook-ups
- Unloading of delivered equipment on site and storage
- PLC/HMI Programming software unless specified elsewhere.
- Engineer stamped drawings or seismic calculations except as otherwise noted.
- Standard costing excludes controls as per S11540 §2.6.
- S11540 § 2.2A Polymer system sizing is incorrect – maximum flowrate needed for 0.25% solution is ~9 GPM
- S13311 § 1.7 A – PWTech notes that its preferred manufacturers are not included in this list and must be pre-approved.

GOVERNING TERMS AND CONDITIONS AND WARRANTY

This scope is subject to Process Wastewater Technologies, LLC. Standard Terms and Conditions and Standard Warranty as attached. The following items are specific to this project:

Payment Terms:

Payment terms for this scope are as per the table below:

Trigger	Amount		Terms			Condition
Submittals	**20**	%	due NET	30	days	On Approval of Submittals
Delivery	**70**	%	due NET	30	days	On shipping, or the offer to ship
O&M	**5**	%	due NET	30	days	On Delivery of final O&M Manuals
Startup	**5**	%	due NET	30	days	On Completion of startup and any other services provided under this scope.

Validity

Validity of this proposal is strictly **90** days. Written authorization from seller is required to extend this.

Warranty

Warranty is 12 months from Substantial completion as per the specifications.

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Process Wastewater Technologies, LLC. Standard Terms and Conditions (Muni.)

These below terms and conditions shall exclusively govern the sale of all goods and related services by Process Wastewater Technologies, LLC. ("PWT") to Buyer.

Item 1. ACCEPTANCE

Buyer may accept the preceding offer by noting acceptance in the space provided on the preceding offer sheet, if such space is provided, or by written purchase order. No oral acceptance shall be effective. This writing is intended by the parties as a final expression of their agreement and, in conjunction with the accompanying signed offer or purchase order and the PWT Standard Limited Warranty ("PWT Standard Limited Warranty"), is intended as a complete and exclusive statement of the terms of their agreement. Acceptance or acquiescence in a course of performance rendered under this agreement shall not be relevant to determine the meaning of this agreement even though the accepting or acquiescing party has knowledge of the nature of the performance and opportunity for objection. No agent, employee or representative of PWT has any authority to bind the Seller to any affirmation, representation or warranty concerning the equipment, components or related services sold under this agreement, and unless an affirmation, representation or warranty made by an agent, employee or representative is specifically included within this written agreement, it has not formed a part of the basis of this agreement and shall not in any way be enforceable.

Item 2. CANCELLATION

Upon acceptance of the preceding offer, Buyer shall have no right to cancel this agreement or any part thereof, except under the conditions specified in this provision or otherwise agreed to in writing by both parties. Any cancellation by Buyer of this agreement must be in writing and shall be deemed effective upon receipt by PWT. In the event of cancellation by Buyer prior to the commencement of production of the goods specified under this agreement, Buyer shall pay PWT a cancellation charge equal to all of the costs incurred by PWT under this agreement up to the time of cancellation, plus fifteen percent (15%) of the full order amount. In the event that production of the goods under this agreement has commenced prior to cancellation, Buyer shall pay a cancellation charge equal to all of the costs incurred by PWT under this agreement up to the time of cancellation, plus an amount equal to the greater of: the value of the goods already completed under the agreement; or fifteen percent (15%) of the full order amount.

Item 3. PRICES

Unless otherwise stated in this offering, prices are F.O.B. the PWT manufacturing facility in Cincinnati, Ohio Charges for on-site technical assistance performed by a factory technical representative are not included unless indicated.

Item 4. VALIDITY

Unless otherwise specified, the preceding offer is valid for acceptance for (30) thirty days and is subject to review thereafter. Prices may be extended beyond thirty (30) days only if confirmed in writing by PWT.

Item 5. PAYMENT TERMS

Twenty percent (20%) of the purchase price under this agreement shall be invoiced net thirty (30) days upon approval of submittals and/or shop drawings; Seventy percent (70%) of the purchase price under this agreement shall be invoiced net thirty (30) days upon shipping, or upon PWT's offer to ship. Five percent (5%) of the purchase price under this agreement to be invoiced net thirty (30) days upon delivery of O&M Manuals and the remaining five percent (5%) will be invoiced net thirty (30) days upon completion and/or performance of all related services under this agreement. Interest will be charged on the unpaid invoiced balance at the rate of one and a half percent (1½%) per month for any amount received after thirty (30) days from the date of invoice. Any collection costs and/or attorney fees incurred by PWT in order to collect payment due will be invoiced to the Buyer, and Buyer agrees to pay said costs.

Item 6. FEES AND TAXES

Buyer shall pay directly or reimburse PWT for payment of any and all applicable customs, sales, use, excise or other fees and taxes associated with the production and delivery of goods under this agreement. Buyer is responsible for and bears the risk of establishing, if applicable, a valid exemption from any tax, and shall indemnify, defend and hold PWT harmless for any loss, cost or expense relating to any such exemption.

Item 7. DELAYED SHIPPING

If Buyer specifies a shipping date more than one (1) year from the date of acceptance of the preceding offer, the price stated in the preceding offer for the same goods shall be increased by a figure of six percent (6%).

Item 8. FINANCIAL RESPONSIBILITY OF BUYER

If at any time before shipment, Buyer's financial ability to pay becomes impaired or unsatisfactory, PWT shall have the right to require Buyer to make payment in full before shipment. In addition, if at any time before shipment, any proceeding is brought by or against Buyer under the bankruptcy or insolvency laws, PWT shall have the right to cancel this contract and Buyer shall pay PWT a cancellation charge equal to all of the costs incurred by PWT up to the time of termination, plus fifteen percent (15%) of the purchase order amount.

Item 9. SHIPPING

Unless otherwise specified, all equipment and components will be shipped in one lot by the lowest cost method at the discretion of PWT. Any additional shipping requests by Buyer may be subject to additional shipping and handling charges. All shipments shall be F.O.B. the PWT manufacturing facility in Cincinnati, Ohio. Delivery to the carrier shall constitute delivery to Buyer for purpose of transfer of risk of loss or damage in transit, and any delivery deadlines specified in this agreement. Buyer is responsible for obtaining any desired cargo insurance and shall pursue any loss or damage claims solely with the carrier.

Item 10. DELIVERY SCHEDULE

Unless otherwise specified, delivery dates under this agreement are approximate, and failure to meet an exact delivery date shall not constitute a breach of this agreement unless delivery is not effected within a reasonable time after the specified delivery date.

Item 11. INSPECTION

Inspection by Buyer or Buyer's representative of the goods specified under this agreement will be permitted prior to shipment at the PWT manufacturing facility in Cincinnati, Ohio, at a time mutually agreeable to both parties. Inspection will be allowed only inasmuch as such inspection does not unreasonably interfere with PWT's production work flow. Complete details of any requested inspection must be submitted to PWT in writing, at least two weeks in advance of the requested inspection date. Any inspection under this provision must be completed prior to shipment of any goods under this agreement.

Item 12. OFFER BASIS

This agreement is exclusively based upon drawings and specifications in the possession of PWT at the time of this agreement. PWT expressly reserves the right to modify the price and other terms of this agreement as reasonable, should additional drawings, documents, or other addenda be required to produce or deliver the goods and/or services provided under this agreement.

Item 13. LIMITED WARRANTY

PWT's warranty liability under this agreement is limited to the terms listed in the PWT Standard Limited Warranty that accompanies these Terms and Conditions, and is incorporated herein by reference. No other warranty, express of implied, is made with respect to the goods and/or services provided under this agreement.

Item 14. MEET AND CONFER

The parties shall amicably work together to negotiate and resolve any controversy or dispute arising out of, or in connection with this agreement or its interpretation, performance or nonperformance or breach thereof. In particular, in the event of a disagreement, the parties shall meet and confer and attempt in good faith to resolve their differences. At the request of the aggrieved party, a face-to-face meeting between decision-makers of the parties shall be arranged at the offices of the non-aggrieved party. Such a meeting shall occur with fourteen days of the delivery of the written request of the aggrieved party, unless otherwise agreed by the parties.

Item 15. ARBITRATION

If, after meeting and conferring as provided under this agreement, the parties are unable to resolve their differences, any disputes shall be settled by binding arbitration in accordance with the following procedures:

(a) The Arbitration shall be conducted in accordance with the Commercial Arbitration Rules of the American Arbitration Association ("AAA") in effect at the time of the arbitration, except as may be modified herein or by mutual agreement of the parties. The location of the arbitration shall be Baltimore, Maryland or Towson, Maryland.

(b) The arbitration shall be conducted by one arbitrator jointly selected by the parties. If the parties are unable to agree upon an arbitrator after thirty (30) days, the arbitrator shall be selected under AAA rules.

(c) The award shall be in writing and shall state the reasons for the award and shall be final and binding on the parties. The award may also include an award of costs, including reasonable attorneys' fees and disbursements. Judgment upon the award may be entered by any court having competent jurisdiction over the parties or their assets.

Item 16. GOVERNING LAW

All disputes and matters arising under, in connection with, or incidental to this contract shall be litigated, if at all, in and before the Circuit Court of Baltimore County, Maryland, USA to the exclusion of other courts of other states, the United States or other countries and to the exclusion of other venues. The parties expressly consent to the exclusive jurisdiction of this court and agree that this venue is convenient and not to seek a change of venue or to dismiss this action on the grounds of *forum non conveniens*, and not to remove any litigation from that court to a federal court. This Agreement shall be construed in accordance with and governed by the substantive laws of the State of Maryland, to the extent state law applies. An action for breach of this agreement must be commenced within two (2) years after the cause of action has accrued.

Item 17. WAIVER AND MODIFICATION

No waiver by either party of any breach, default or violation of any term, warranty, representation, agreement, covenant, condition or provision of this agreement shall constitute a waiver of any subsequent breach, default, or violation of the same or other term, warranty, representation, agreement, covenant, condition or provision. No modification, amendment, extension, renewal, rescission, termination or waiver of any of the provisions contained in this agreement, or any future representation, promise or condition in connection with the subject matter of this agreement, shall be binding upon either party unless in writing and signed by both parties.

Item 18. SEVERABILITY

Any provision of this agreement which is invalid, prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective solely to the extent of such invalidity, prohibition or unenforceability without invalidating the remaining provisions hereof, and any such invalidity, prohibition or unenforceability in any such jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

Item 19. ASSIGNMENT AND DELEGATION

Neither party to this agreement shall have the right to assign or delegate its interest in or obligations under this Agreement without the prior written consent of the other party, which shall not be unreasonably withheld. The merger, acquisition, reorganization or other restructuring of PWT shall not constitute an assignment under the terms of this agreement provided the surviving entity has assumed all of the obligations of PWT under this agreement. The transfer of any rights under this agreement from PWT to any entity controlled by or affiliated with PWT shall not constitute an assignment under the terms of this agreement provided PWT retains all of its obligations under this agreement. The rights and obligations of the parties to this Agreement shall be binding upon, and enforceable by their respective heirs, successors and permitted assigns.

PWT LLC Standard Limited Warranty

Item 1. LIMITATION OF LIABILITY

The only warranty which PWT LLC ("PWT") makes is that warranty which is set forth in the preceding agreement and which is further detailed below:

THE GOODS SPECIFIED UNDER AGREEMENT WITH PWT ARE PROVIDED "AS IS" AND PWT DOES NOT MAKE ANY OTHER EXPRESS WARRANTIES OR ANY IMPLIED WARRANTIES WITH RESPECT TO THESE GOODS AND/OR RELATED SERVICES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR USE.

In addition, PWT does not assume and expressly disclaims any liability for (i) any SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES which anyone may suffer as a result of the sale, delivery, service, use, or loss of use, of any goods and/or services provided by PWT, or (ii) any charges or expenses of any nature which are incurred without the express written consent of PWT. In particular, PWT does not warrant that any goods provided are free from any claim of any third person by way of infringement or the like, and PWT expressly disclaims any liability for any claim of infringement or the like that may result from the sale, delivery, service, use, or loss of use of any goods and/or services provided by PWT.

PWT's obligation under this warranty is expressly limited to the repair or replacement of any part or parts that are proved to the satisfaction of PWT to have failed prematurely or because of a fault in workmanship or materials.

PWT's total liability under this warranty or in connection with any claim involving any goods or services is expressly limited to the purchase price of the goods and/or services in respect of which damages are claimed.

Item 2. DEFECTS WARRANTY

PWT warrants that the goods manufactured by PWT shall be free from defects in material and workmanship for the shorter period of: (i) twelve (12) months from the date of start-up; or (ii) eighteen (18) months from the delivery of the specified goods.

PWT's liability under this warranty or in connection with any other claim relating to goods manufactured and delivered by PWT is limited to the repair, or at our option, the replacement or refund of the purchase price, of any products or parts or components which are returned to PWT freight prepaid, and which PWT determines, in its discretion, are defective in material and workmanship. Products or parts or components thereof which are repaired or replaced by PWT will be returned to the buyer freight collect.

Item 3. PRODUCTS OF OTHER MANUFACTURERS

PWT makes no warranty with regard to any products not manufactured by PWT, including but not limited to electrical components or equipment and other prime movers.

Item 4. TYPES OF DAMAGES AND CLAIMS FOR WHICH PWT LLC IS NOT RESPONSIBLE

The following non-exclusive list of items are specifically not covered by the PWT Standard Limited Warranty and, in the event of their occurrence, will render the PWT Defects Warranty null and void:

- defects which are caused by improper installation, improper or abnormal use or operation, or improper storage or handling;
- defects caused by the failure of the buyer or user to perform and log normal preventative maintenance;
- defects caused by the use of replacement parts not approved in writing by PWT;
- defects caused by repairs by persons not authorized in writing by PWT;
- defects caused by modifications or alterations made by the buyer or user;
- any damage to our any product occurring while it is in the possession of the buyer or user.

Item 5. EQUIPMENT SAFETY PARAMETERS:

With respect to operation of the equipment, it is the responsibility of the buyer to define and provide any safety device(s) or associated safety device(s) (other than that which is ordinarily furnished by PWT) which may be necessary and/or required, and to establish safety procedures and operational instructions to safeguard the operator(s) during maintenance, cleaning, or any use of the equipment whatsoever, and to subsequently ensure that the equipment is operated in conformance with all applicable safety procedures, laws, regulations and instructions.

It is also the responsibility of the buyer to enforce all safety regulations and operational instructions and to maintain the equipment in a safe condition (*e.g.*, guards in place; warning, caution and/or important labels affixed; electrical boxes secure; interlocks operational; etc.). In particular, all warning, caution and/or important labels must be maintained in a readable condition, and if necessary, replaced with new labels.

Additionally, as the nature of the equipment does not always make it possible to fully prevent operator access from rotating components, maintenance or cleaning of any nature must not be performed on the equipment without first disconnecting all power.

Item 6. OPERATOR SAFETY COMPLIANCE:

Buyer warrants and agrees that because it has sole control over the equipment, it shall be solely responsible for safety compliance. Operator access and use of equipment, and full compliance with all provisions of the Operator Safety section of PWT Instruction Manuals are essential and the user's responsibility; the provisions of that section being expressly incorporated herein.

ATTACHMENT NO. 4

PEAK SHAVING PUMP EQUIPMENT
SCOPE OF WORK

WILBARGER CREEK MUNICIPAL UTILITY DISTRICT NO. 2
WASTEWATER TREATMENT PLANT EXPANSION TO 1.5 MGD

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
912 S. Capital of Texas Hwy, Suite 300 • Austin, TX 78746 • 512.441.9493

QUOTATION

MANSFIELD PUMP COMPANY

Date: 11/4/26
Proposal #: 26-667r4
Customer ID: TBD
Project Name: Wilbarger Creek Municipal Utility District No. 2 Wastewater Treatment Plant Expansion to 1.5 MGD

Quotation for:
Quiddity Engineering

301 Main Plaza, Unit 311
New Braunfels, TX 78130
Office: (210) 964-5999

Salesperson	Phase Code	Ship Date / Current Lead Time	Ship Via	Terms
James Mansfield	11-122	20-22 Weeks after Approved Submittals	Motor Freight	NET 30

Quantity	Part Number	Description	Unit Price	Amount
TAG: SPP-04-301				
1	6STX-F55K	**Cornell** 6STX-F55K 465gpm @ 29' TDH @ 965rpm -Ductile iron volute (centerline), suction cover, backplate. -Ductile iron RH 12.38" Impeller, dynamically balanced -Mild steel wear plate -303 SS shaft sleeve. -6" suction, 6" discharge, ANSI Flanged 125# connection. -Type-2, 2.00" Silicon Carbide vs Silicon Carbide, viton elastomers, stainless steel hardware. Motor – G.E. To match existing -15hp, 3ph, 60Hz, 460v -1200rpm -TEFC, 284 T Frame -Class "H" insulation -No motor test Mounting -Fabricated steel base -Grout holes -Reverse overhead motor mount -Belt driven Treatment -Sandblast SSPC-SP10 pump & base exterior -Tnemec 394 primer -Tnemec 66 intermediate -Finish coat to be applied in the field -MFG factory enamel finish on motor Weight: 1,420 lbs.	$ 41,100.00	$ 41,100.00
1		HI Level 1B performance, with Engineer Approval	$ 3,670.00	$ 3,670.00
1		Lot of Delivery, Start Up, and Freight	$ 2,225.00	$ 2,225.00
			Subtotal	$ 46,995.00
			Tax Rate	0.00%
			Sales Tax	$ -
			Other	$ -
			Total	**$ 46,995.00**

If you have any questions concerning this quotation contact James:
(512) 745-7647 or james@mansfieldpump.com

Exceptions: Controls, Control Panel Upgrades, Gaskets, Hardware, Anchor Bolts, Grouting, Lifting Chain, Crane Service, Installation, Labor, etc. are NOT Included.

(1) The price quoted is F.O.B. Factory. See Freight Adder.
(2) Federal taxes, state taxes, or local taxes are NOT included.
(3) 100% NET 30 Days from date of invoice.
(4) Installation and offloading is by OTHERS.
(5) This Quote is Valid Until February 1, 2027.

Thank you!

ATTACHMENT NO. 5

LIFT STATION PUMP EQUIPMENT
SCOPE OF WORK

WILBARGER CREEK MUNICIPAL UTILITY DISTRICT NO. 2
WASTEWATER TREATMENT PLANT EXPANSION TO 1.5 MGD

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
912 S. Capital of Texas Hwy, Suite 300 • Austin, TX 78746 • 512.441.9493

Xylem Water Solutions USA, Inc.
Flygt Products

35 Nutmeg Drive
P.O. Box 1004
Trumbul, CT 06611-0943
Tel 203 380 4700
Fax 203 380 4705

November 5, 2026

Quiddity
Attn:
912 S. Capital of Texas Highway, Suite 300
Austin TX 78746

Quote # 2026-SNT-0243
Project Name: City of Austin
Job Name: Wilbarger WWTP 1.5 MGD Expansion Lift Station

Xylem Water Solutions USA, Inc. is pleased to provide a quote for the following Flygt equipment.

Pumps & Accessories

Qty	Part Number	Description
4	3171.095-0693	Flygt Model NP-3171.095 6" volute Submersible pump equipped with a 460 Volt / 3 phase / 60 Hz 25 HP 1750 RPM motor, 436 impeller, 1 x 50 Ft. length of submersible cable, FLS leakage detector, volute is prepared for Flush Valve
4	14-69 94 79	TEST FAL 2.2 3171-3301 7POINT+ PLOTTED FAL 15-900006
2	14-69 00 11	START UP CHARGE FLYGT 3-TP MODELS: 3000,7000,8000
4	83 57 25	GRIP,CABLE SS 25-36MM
4	442 18 16	SLING,CHAIN UNIT SS WIRE 10M
1	620 09 00	GRIP EYE UNIT
4	14-58 95 35	HARDWARE,DISC CONN ASSY 304SS
1	14-69 98 30N	SHIPPING AND HANDLING-NO TAX

Rail System

Qty	Part Number	Description
		Note: Existing Guide Rails to be Reused
4	602 33 06	CONNECTION,DISCH 5½X6" CI
4	613 68 04	BRACKET,GUIDE BAR UPPER 2" 316

Access Cover

Qty	Part Number	Description
2	Hatch	5'3" x 3'6" Clear Opening w/ Safety Grates

Controls

Qty	Part Number	Description
		Note: Existing Control Panel to be Reused
4	14-40 71 29	MINI-CASII/FUS 120/24VAC,24VDC
4	14-40 70 97	SOCKET,11 PIN OCTAL DIN MOUNT
		Note: Quotation Excludes PLC local panel, PLC programming, SCADA integration, and control systems modifications except for Mini-CAS monitoring devices
		Note: Level transducer and float controls to be reused

FLYGT
a xylem brand

Qty	Part Number	Description

Total Price $ 167,238.10

Terms & Conditions

This order is subject to the Standard Terms and Conditions of Sale – Xylem Americas effective on the date the order is accepted which terms are available at http://www.xyleminc.com/en-us/Pages/terms-conditions-of-sale.aspx and incorporated herein by reference and made a part of the agreement between the parties.

Purchase Orders: Please make purchase orders out to: Xylem Water Solutions USA, Inc.

Freight Terms: 3 DAP - Delivered At Place 08 - Jobsite (per IncoTerms 2020)
See Freight Payment (Delivery Terms) below.

Taxes: State, local and other applicable taxes are not included in this quotation.

Back Charges: Buyer shall not make purchases nor shall Buyer incur any labor that would result in a back charge to Seller without prior written consent of an authorized employee of Seller.

Tariff Changes: The prices quoted herein are based on the current tariff rates, duties, government charges, and trade regulations as of the date of this quote. If any new tariffs, duties, taxes, or similar charges are imposed, or any existing tariffs, duties, or charges are increased or modified by any government or regulatory authority (collectively, "Tariff Changes"), and such Tariff Changes result in an increase in the cost of goods, Xylem reserves the right to adjust the pricing of the affected goods to reflect the increased costs.

Shortages: Xylem will not be responsible for apparent shipment shortages or damages incurred in shipment that are not reported within two weeks from delivery to the jobsite. Damages should be noted on the receiving slip and the truck driver advised of the damages. Please contact our office as soon as possible to report damages or shortages so that replacement items can be shipped and the appropriate claims made.

Terms of Delivery: PP/Add Order Position

Terms of Payment: TBD
Xylem's payment shall not be dependent upon Purchaser being paid by any third party unless Owner denies payment due to reasons solely attributable to items related to the equipment being provided by FLYGT.

Validity: This Quote is valid for thirty (30) days.
Please note that this pricing is valid for 30 days and contingent upon final approval of submittals and release to fabrication by (within 90 days of bid date).
This quotation is subject to change if any changes to the specifications or plans are made that alter the scope of supply.

Sincerely,

FLYGT
a xylem brand

Gage Frank
Direct Sales Representative

Cell: 210-758-8071
gage.frank@xylem.com

Customer Acceptance

This order is subject to the Standard Terms and Conditions of Sale – Xylem Americas effective on the date the order is accepted which terms are available at http://www.xyleminc.com/en-us/Pages/terms-conditions-of-sale.aspx and incorporated herein by reference and made a part of the agreement between the parties.

A signed copy of this Quote is acceptable as a binding contract.

Purchase Orders: Please make purchase orders out to: Xylem Water Solutions USA, Inc.

Quote #:
Customer Name:
Job Name: Wilbarger WWTP 1.5 MGD Expansion Lift Station
Total Amount: $ 167,238.10

Signature: _____ Name: _____
(PLEASE PRINT)

Company/Utility: _____ PO: _____

Address: _____ Date: _____

_____ Phone: _____

_____ Email: _____

_____ Fax: _____

ATTACHMENT NO. 6

BLOWER EQUIPMENT
SCOPE OF WORK

WILBARGER CREEK MUNICIPAL UTILITY DISTRICT NO. 2
WASTEWATER TREATMENT PLANT EXPANSION TO 1.5 MGD

QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
912 S. Capital of Texas Hwy, Suite 300 • Austin, TX 78746 • 512.441.9493

BUILDING**TRUST** • DELIVERING**EXCELLENCE**

MC SERIES MULTISTAGE CENTRIFUGAL BLOWER PROPOSAL

QUOTE NO.:	020526JC-1

CUSTOMER:	All Bidding Contractors	QUOTE DATE:	11/4/2026
OWNER/PROJECT:	Wilbarger Creek	REPRESENTATIVE:	EI2
EQUIPMENT:	Multistage Centrifugal	ENGINEER:	Quiddity
PROPOSED BY:	James Cook	SPECIFICATION:	11171
SUPPLIER:	Lone Star Turbo		

QUANTITY	One (1)
APPLICATION	AERATION
MEDIA	Air
DESIGN FLOW	1200 SCFM
DESIGN PRESSURE	8 PSIG
DESIGN TEMPERATURE	110°F
DESIGN RH%	100%
ELEVATION	506 FT
PROPOSED BLOWER MODEL	MC81-8
BLOWER POWER RATING	75 HP

LONE STAR TURBO
8883 West Monroe Road
Houston, TX, 77061

TEL: 832-532-3112
FAX: 832-532-3115

PROPOSAL PRICING

Customer: All Bidding Contractors
Quotation No.: 020526JC-1

The following is a price summary for this quotation. Please click item specific for more Technical Offer details.

DESCRIPTION	UNIT PRICE	QTY	EXTENDED
MC81-8 Blower & Skid Package	Included	1	Included
Blower Accessory Package	Included	1	Included
Process Instrumentation Package	Included	1	Included
Blower Local Control Panel	Included	1	Included
Packaging & Freight	Included	LOT	Included
Field/Startup Services	Included	LOT	Included
Recommended Spare Parts	Included	LOT	Included
		Base Total	$133,240.00
		Grand Total	$133,240.00

SCOPE OF SUPPLY: Any work or equipment beyond the scope of this proposal will be performed or provided only after customer approval and acceptance by Lone Star Blower. No assumption should be made that anything not specifically defined is included.

VALIDITY: This quotation is valid for 90 Days.

PRICE: The price quoted is for all items purchased at one time. Partial orders may be subject to a price adjustment.

PAYMENT TERMS: 5%-Upon Receipt of Submittal; 15%-Upon Receipt of Submittal Approval; 30%-Upon Proof of Receipt of Major Material; 40%-Upon Delivery of Equipment; 10%-Upon Completion of Startup & Training. Terms subject to credit approval.

PACKAGING: Standard white wrap packaging for ground freight.

FREIGHT: Shipping Cost DAP Jobsite (INCOTERMS® 2010) are included.

APPROVAL DRAWINGS: 6-8 Weeks from Receipt of Approved PO

EQUPMENT LEAD TIME: 26-30 Weeks from Receipt of Approval Drawings

WARRANTY: A 12 month Blower Package warranty will begin upon successful completion of startup and certification for full-scale operation by Lone Star Blower, or 18 months from shipment, whichever occurs first. Under no circumstances will the warranty begin upon “beneficial use”, completion of the project, or acceptance of the equipment as determined by the engineer or end user.

TERMS & CONDITIONS: Attached is a copy of our standard terms & conditions. Any and all warranty terms and conditions detailed in the proposal herein shall supersede and/or supplement the warranty language denoted in the Lone Star Turbo terms and conditions.

MC SERIES BLOWER MAJOR COMPONENTS

Lone Star Multistage Centrifugal Blower, accessories and controls for efficiency optimization and minimized power consumption. This proposal is offered in accordance with Lone Star Blower's standard design specifications.

(1) Lone Star MC Series Multistage / Model - MC81-8 / Air Service
Standard Blower Core Components:

- Cast Iron Body
- Carbon Steel Shaft
- Grease Lubricated
- Aluminum Impellers

(1) Lone Star Premium Structural Steel Skid/Base Components Included:

- Heavy Duty I-Bean Construction
- Powder Coated
- Motor Mounting Pads
- Motor Jack Bolts
- Lifting Eyes on Corners
- Premium Coupling
- OSHA Coupling Guard
- Vibration Isolation Pads

Main Drive Motor:
(1) 75HP, 460 VOLT, TEFC, Non-Hazardous, 3600 RPM, 1.15 SF, Motor

- 120V Space Heater
- 1.15 S.F for Constant Speed Operation
- Non-Hazardous Classification

Paint:

- Blower & Skid will include manufacturer's standard finish. 2-part epoxy paint, RAL5-5005 Dark Blue.

TECHNICAL OFFER - AIR BLOWER ACCESSORY PACKAGE

Lone Star Turbo offers all required accessories for a complete system.

Inlet Accessories (Shipped Loose; for each blower, for installation by Customer):

- 10" Inlet Filter/Silencer, Cartridge Type, Felt Element
- 10" Inlet Butterfly Valve, Lugged Style w/EPDM Seal, Manual

Discharge Accessories (Shipped Loose; for each blower, for installation by Customer):

- 10" Discharge Check Valve , Wafer Style w/EPDM Seat
- 8" Discharge Expansion Joint, EPDM Material
- 10" Discharge Butterfly Valve , Lugged Style, EPDM Seat, Manual

TECHNICAL OFFER - PROCESS INSTRUMENTATION PACKAGE

Lone Star Turbo offers Premium Instrumentation to protect your new equipment and allow for process monitoring and blower automation if desired. Equipment can be wired to plant system or combined with Blower Local Control Panel as applicable for further equipment capability and monitoring. Protect your investment and/or automate your packages with our Process Instrumentation Options.

Process Instrumentation Options (Shipped Loose for Customer mounting & Wiring):

Inlet Instrumentation (Shipped Loose; for each blower, for installation by Customer):

- Inlet Differential Pressure Gauge

Discharge Instrumentation (Shipped Loose; for each blower, for installation by Customer):

- Discharge Pressure Gauge

TECHNICAL OFFER - LOCAL CONTROL PANEL

Lone Star Turbo offers a complete line of local control panels (LCPs) to suit every application, process & environment. Lone Star Blower's Advanced sLOC-MC smart panels can handle a variety of blower setups to include: Analog Blower Protection, Inlet Valve Control, Vacuum Control & Variable Speed (VFD) applications. Having blower LCPs will greatly extend the life of the blower by monitoring, protection and shutting down the blower to protect itself from unsafe operating conditions while operating the equipment at peak efficiencies.

sLOC-MC-Monitoring Panel:

sLOC Monitoring Panel, Model - 2152 PLC Next® PLC and 7" HMI installed in a NEMA 4X 316SS Enclosure. 120V Powered. Monitors Amps and up to seven (7) other 4-20 mA analog instruments.

- Remote Mounted Local Control Panel (LCP)
- LCP Enclosure: NEMA 4X 316SS - 16" x 14" x 8"
- PLC / HMI: PLC Next®
- HMI Size: 7"
- HMI Window Kit
- Current Transmitter for Amp Monitoring

EQUIPMENT TESTING

Lone Star Turbo performs mechanical testing under full load for all new blowers. The standard mechanical test includes balance report & vibration analysis. In addition to mechanical testing, the following test is being proposed:

- No Additional Testing being Proposed

PACKAGING & FREIGHT

Lone Star Blower ships from our Houston, Texas, USA factory. Packaging is included with standard white shrink wrap with labels. Freight and Handling DAP Jobsite (INCOTERM® 2010) is included.

- Standard Packaging & Freight by Lone Star Blower

FIELD SERVICES

Lone Star Turbo has a fully trained & experienced service group which will perform field service, equipment commissioning & onsite repairs. This proposal includes:

- 3 trip(s) for a total of 6 days onsite for blower startup & operator training.
- *- Additional service is available per Lone Star's published labor rate sheet.*
- *- Advance notification of 15 working days is required for scheduling.*

SPARE PARTS

Lone Star Turbo stocks parts locally in Houston, TX but we offer spare parts, lubrication & accessory items which is recommended to be kept onsite to maximize operating time. This proposal includes:

- (3) Spare Inlet Filters
- (4) Spare Lubrication (Blower Bearing Grease)
- (4) Spare Lubrication (Bearing Grease)

PROPOSAL COMMENTS & CLARIFICATIONS

The following items directly related to this type of equipment are NOT INCLUDED unless specifically identified in Proposal:

- Fittings, Gaskets, Piping, Piping Hardware (Bolts, Nuts, Washers)
- Existing Equipment Removal & Disposal
- Equipment Installation
- Equipment Wiring, External Transformers or Electrical Equipment outside of our Proposed Package
- Performance Bonds
- Installing Contractor shall provide hardware and isolation ball valves for gauge mounting

Lone Star Turbo

TERMS & CONDITIONS OF SALE
(EQUIPMENT AND/OR SERVICE)

1. GENERAL: As used herein, "Seller" means Lone Star Turbo "Purchaser" means the entity to which Seller's offer is made, or the entity purchasing Equipment and/or service from Seller. The term "Equipment" as used herein includes any and all products, equipment, parts, and accessories furnished by Seller to Purchaser. All offers and sales by Seller are expressly conditional upon these Terms and Conditions of Sale. Any terms or conditions in Purchaser's purchase order (or in any other Purchaser communication) which are different from or in addition to the terms and conditions contained in these Terms and Conditions of Sale are hereby objected to. All orders submitted to Seller are subject to approval by Seller's headquarters.

2. DELIVERY: The shipment/delivery period is an estimate only and commences after Seller's receipt of all necessary information, approvals, and signed submittals with release for manufacturing. In no event shall delivery be construed as falling within the meaning of "time is of the essence". Seller reserves the right to deliver in installments. Unless otherwise specified in Seller's quotation, delivery is F.O.B. Seller's manufacturing facility.

3. TITLE and RISK OF LOSS: Unless otherwise specified in Seller's written quotation, title and risk of loss or damage to the Equipment shall pass to Purchaser upon tender of delivery F.O.B. manufacturing facility. Notwithstanding the foregoing, a security interest in the Equipment or any replacement shall remain in Seller, regardless of mode of attachment to realty or other property, until full payment has been received by Seller. Purchaser agrees upon request to do all things and acts necessary to perfect and maintain said security interest and shall protect Seller's interest by adequately insuring the Equipment against loss or damage from any cause.

4. TAXES: Purchaser shall be responsible for applicable local, state and federal taxes which may be now or hereafter be applicable to, measured by, or imposed upon, or with respect to this transaction, the Equipment, its sale, its value or its use, or any services performed in connection therewith (except any taxes on Seller's income). If sales, use or other State or Municipal taxes in addition to any listed specifically as part of the stated purchase price, are imposed upon Seller, Purchaser agrees to pay the same or reimburse Seller upon demand. Seller will accept a valid exemption certificate from Purchaser, if applicable. If an exemption certificate pREV1iously accepted by Seller is not recognized by the governmental taxing authority involved, Purchaser agrees to promptly reimburse Seller for any taxes covered by such exemption certificate which Seller is required to pay.

5. PAYMENT: Unless specifically agreed otherwise in writing, payment is due in full within 30 days of the invoice date. Seller reserves the right to charge late fees on overdue amounts at a monthly rate of 1.5% (one and a half percent) or the rate permitted by law, whichever is lower. Purchaser shall have no right to set-off against any amounts which may become payable to Seller under this contract or otherwise, for amounts which Seller may allegedly or in fact owe Purchaser or any affiliate of Purchaser or assignee whether arising under this contract or otherwise. Any waiver by Seller of any lien or lien right shall be conditioned upon Purchaser's timely payment to Seller of all amounts due.

6. INSTALLATION: Unless Seller's written quotation specifies that Seller will perform installation of the Equipment, it is understood and agreed that Seller will not perform any installation of the Equipment.

7. START-UP, OTHER SERVICE: Any service (for example, Equipment start-up, if applicable) to be performed by Seller is specified in Seller's written quotation. Dates/time for the service is subject to scheduling and confirmation by Seller's service department. Seller's performance of service is subject to Seller's normal working hours (8:30 am to 5:00 pm, Monday through Friday excluding public holidays), unless expressly agreed otherwise. If any forklift, crane, and/or other lifting or rigging equipment or lighting equipment is necessary (as reasonably determined by Seller's service technician) for Seller to perform the service, Purchaser shall supply such equipment at its own expense together with sufficiently skilled and qualified labor in connection therewith, unless expressly agreed otherwise. If Purchaser requests Seller to comply with Purchaser's safety programs/procedures in connection with performing service at Purchaser's premises, Seller shall comply with such safety programs/procedures that have been provided in advance to Seller in writing with reasonable opportunity to REV1iew/implement, to the extent they are reasonable and applicable to the scope of Seller's activities at the premises.

8. INSURANCE: During the term of the Contract, Seller agrees to have the following insurance coverage:

a) Commercial General Liability insurance in an amount of $1,000,000 each occurrence for bodily injury and physical damage to tangible property, subject to an annual aggregate not to exceed $2,000,000;
b) Automobile Liability insurance in an amount of $1,000,000 combined single limit each occurrence;
c) Worker's Compensation insurance in accordance with applicable statutory law; and
d) Employer's Liability insurance in an amount of $1,000,000 for bodily injury each accident or disease.

If Seller will physically enter onto Purchaser's premises (or a third party's premises) in connection with the sale of the Equipment/ service, Seller agrees to, at Purchaser's reasonable request, provide an ACORD form of certificate confirming the above-stated insurance coverage. Seller shall have no other insurance-related requirement, unless specifically agreed to in writing by an authorized manager of Seller in connection with the order.

9. RETURN POLICY: Shipping and handling charges are not refundable. Purchaser is responsible for the return shipping fee. All returned items are subject to a 30% restocking fee. Returned items must be in brand new condition with all packaging enclosed in the exact condition in which you received them. Special order or non-stock items will not be accepted for return/refund.

10. CANCELLATION: Each party has the right to cancel the order/contract in whole or in part in writing with immediate effect if the other party becomes insolvent, makes a general assignment for the benefit of creditors, suffers or permits the appointment of a receiver for its business or assets, becomes subject to any proceeding under any bankruptcy or insolvency law, or has wound up or liquidated (voluntarily or otherwise). In addition, each party has the right to cancel the order/contract or any part thereof if the other party fails, within 30 days after receipt of written notice from the non-breaching party specifying the material breach and intent to terminate, to commence and diligently pursue cure of the breach. Unless an order is cancelled by Purchaser in accordance with this paragraph, Purchaser shall pay Seller's cancellation charges if Purchaser cancels the order (including if Purchaser cancels the order for Purchaser's convenience). The cancellation charges shall be reasonable and may include (among other things) all costs and expenses incurred, and commitments made by Seller and a reasonable profit thereon. Notwithstanding anything set forth to the contrary, Seller may suspend Seller's performance or cancel the order/contract (or any part thereof) immediately if Purchaser fails to provide payment security (if applicable) or if Purchaser fails to make any payments when due.

11. WARRANTY: Seller hereby warrants to Purchaser that the Equipment manufactured or distributed by it and delivered hereunder will be free from defects in material and workmanship under proper use and service; this warranty shall expire one (1) year from start-up or 18 months from the original shipment date from Seller's manufacturing facility whichever comes first. This warranty applies only to Equipment manufactured by Seller and does not cover motors, starters, electrical equipment or other components or accessories manufactured by others. Seller will repair or replace, F.O.B. its factory, any defective part or parts, at no charge, if promptly returned to it within the above-noted warranty period. This warranty extends only to the original purchaser of Equipment furnished hereunder and shall be void if the Equipment is repaired or tampered with in any manner other than by Seller's authorized service personnel. If Seller's inspection does not disclose a defect covered by the warranty, the Equipment will be returned to Purchaser at its expense or, if Purchaser elects, Seller will repair or replace the equipment and charge for such service at the regular rate. Seller hereby warrants to Purchaser that all other Equipment manufactured by Seller and delivered hereunder will be free from defects in material and workmanship under proper use and service; this warranty shall expire one year from the original shipment date from Seller's manufacturing facility. This warranty applies only to Equipment manufactured by Seller and does not cover components or accessories outside of standard packaged equipment offered. Seller will repair or replace, F.O.B. its factory, any defective part or parts, at no charge, if promptly returned to it within the warranty period. This warranty extends only to the original purchaser of Equipment furnished hereunder and shall be void if the product is repaired or tampered with in any manner other than by Seller's authorized service personnel. If Seller's inspection does not disclose a defect covered by the warranty, the Equipment will be returned to Purchaser at its expense or, if Purchaser elects, Seller will repair or replace the Equipment and charge for such service at the regular rate. Seller warrants to Purchaser that Equipment or parts thereof repaired or replaced pursuant to the above warranty under proper use and service against defects in workmanship and material; this warranty shall expire 60 days from date of start-up of such repaired or replaced. Equipment or parts thereof or on the expiration of the original Equipment warranty, whichever is later. If the nature of the defect is such that it is appropriate in the judgment of Seller to do so, repairs shall be made at the site of the Equipment. Seller warrants to Purchaser that any services performed by Seller in connection with startup or other servicing of Equipment shall be performed in a workmanlike manner; this warranty shall expire 60 days after the service date visit. If any nonconformity with this warranty appears, Seller shall re-perform the non-conforming portion of the services in a conforming manner. Any warranties granted beyond those stated above must be specifically identified as a warranty in Seller's specific quotation. Correction by Seller of nonconformities (i.e. repair or replacement of Equipment that is defective in material or workmanship, and re-performance of service which was not performed in a workmanlike manner) in the manner and warranty period provided above shall be Purchaser's exclusive remedy (and Seller's exclusive obligation) with respect to nonconforming Equipment and/or services. In the event Purchaser and Seller agree that Seller will sell any used Equipment to Purchaser, such used Equipment is sold AS-IS, WITH ALL FAULTS, AND WITHOUT WARRANTY OF ANY KIND.

THE ABOVE-STATED WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL, IMPLIED, OR OTHERWISE. SELLER HEREBY EXPRESSLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE.

12. CONFIDENTIALITY: In connection with the order and/or performance under this contract, Seller and Buyer (as to information disclosed, the "Disclosing Party") may each disclose Confidential Information to the other party hereto (the "Receiving Party"). " Confidential Information" shall mean all information related to the business or products (including but not limited to the Equipment) or services of the Disclosing Party that is not generally known to the public, and all pricing and terms of this contract, provided that the obligations of this paragraph shall not apply as to any portion of the Confidential Information which: (i) is or becomes generally available to the public other than as a result of disclosure by the Receiving Party, its representatives or its affiliates, or (ii) has been or is subsequently independently developed by the Receiving Party, its representatives or affiliates, without reference to the Confidential Information, or (iii) is required to be disclosed by law or valid legal process provided that the Receiving Party who intends to make such disclosure shall promptly notify the Disclosing Party in advance of such disclosure and reasonably cooperate in attempts to maintain the confidentiality of the Confidential Information. The Receiving Party agrees, except as otherwise required by law: (i) to use the Confidential Information only as the Disclosing Party intended it to be used by the Receiving Party in connection with providing or receiving the Equipment/service under this contract, and (ii) to take reasonable measures to prevent disclosure of the Confidential Information, except disclosure to its employees to the extent necessary to facilitate providing or receiving Equipment/services as contemplated under this contract. Upon the Disclosing Party's request, the Receiving Party shall destroy or return to Disclosing Party all copies of Confidential Information. If either party or any of their respective affiliates or representatives is required or requested by subpoena, interrogatories, or similar legal process to disclose any Confidential Information, such party agrees to provide the Disclosing Party with prompt written notice of such request, so that the Disclosing Party may seek an appropriate protective order or waive compliance by the Receiving Party with the provisions herein. It is understood and agreed that this paragraph survives any expiration/termination of this contract.

13. INTELLECTUAL PROPERTY: No patents, copyrights, trademarks, trade secrets, or other intellectual property rights are being sold, granted, transferred, or assigned to Purchaser. Without limiting the generality of the foregoing, Seller retains all right, title and interest in and to all inventions, discoveries, ideas, works of authorship (including but not limited to all drawings), processes, methods, know-how, and techniques developed, discovered or conceived by Seller or its employees, including without limitation those developed and/or used in connection with the manufacture of Equipment or performing services hereunder. Such rights include, but are not limited to, patent rights, copyrights, trade secret rights, trademark rights, mask work rights and other proprietary rights throughout the world. Purchaser acknowledges and understands that no drawings, designs, specifications, or anything else provided by Seller shall be deemed to be "work made for hire."

14. PATENT INDEMNITY: Seller shall defend any suit or proceeding brought against Purchaser and shall pay any adverse judgment entered therein so far as such suit or proceeding is based upon a claim that the use of the Equipment or any part thereof manufactured by Seller, and furnished under this contract constitutes infringement of any patent of the United States of America, provided Seller is promptly notified in writing and given authority, information and assistance for defense of same, and Seller shall, at its option, procure for Purchaser the right to continue to use said Equipment, or modify it so that it becomes non-infringing, or replace the same with non-infringing equipment, or remove said Equipment and to refund the purchase price (less a reasonable amount for the time the Equipment was used). The foregoing shall not be construed to include any agreement by Seller to accept any liability whatsoever in respect to patents for inventions including more that the Equipment furnished hereunder, or in respect of patents for methods and processes to be carried out with the aid of said Equipment, except those which are inherent in the Equipment as furnished. The foregoing states the entire liability of Seller with regard to patent infringement. If any Equipment shall be sold by Seller to meet Purchaser's specifications or requirements and is not a part of Seller's standard line offered by it to the trade generally in the usual course of Seller's business, Purchaser agrees to defend, protect, and indemnify and save harmless Seller from any loss, damage, or injury arising out of a claim, suit or action at law or equity for actual or alleged infringement of any patent of the United States or foreign country because of the sale of such Equipment, and to defend any suits or actions which may be brought against Seller.

15. SOFTWARE: In the event any Equipment includes software in any form, such software is not sold to Purchaser but is only licensed on a limited, non-exclusive basis. Subject to Purchaser's compliance with these terms and conditions of sale, Seller grants to Purchaser for the useful life of such Equipment a royalty-free, non-exclusive, non-transferable license to use the software as intended by Seller solely for normal use of the Equipment. Purchaser shall not create derivative works based on the software, or REV1erse engineer, or disassemble or decompile the software, or transfer, copy, modify, or otherwise change the software.

16. EXPORT CONTROL: Equipment, technical data, technology, software, and services furnished by Seller to Purchaser shall at all times be subject to any and all applicable export control laws and regulations, including but not limited to applicable U.S. Export Administration Regulations, United Nations resolutions and European Union directives relating to trade embargoes and restrictions. Purchaser agrees and warrants that no Product, services, technical data, technology, software or other technical information or assistance or other item furnished by Seller, or any good or product resulting therefrom, shall be exported or re-exported by Purchaser or its authorized transferees, if any, directly or indirectly, in violation of any law or regulation.

Any export and/or re-export must be in strict accordance with applicable U.S. export laws and regulations, as well as United Nations resolutions and European Union directives relating to trade embargoes and restrictions. Violation of this paragraph constitutes a material and non-curable breach and entitles Seller to terminate the order immediately (even after shipment of the Equipment).

17. FORCE MAJEURE: If either party is delayed at any time by any Force Majeure, such party shall have such additional time within which to perform its obligations as may reasonably be necessary under the circumstances. "Force Majeure" means circumstances beyond the delayed party's reasonable control, including but not limited to, acts of God, acts of public enemies, wars, delays by Seller's suppliers, blockades, insurrections, riots, epidemics, quarantine restrictions, floods, lightning, fire, storms, earthquakes, and civil disturbances.

18. LIMITATION OF LIABILITY:

IN NO EVENT SHALL SELLER BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS OR REV1ENUE, LOSS OF TOTAL OR PARTIAL USE OF THE EQUIPMENT OR SERVICES, DOWNTIME COSTS, AND DELAY COST) HOWSOEVER ARISING, WHETHER ON ACCOUNT OF EQUIPMENT OR SERVICES FURNISHED HEREUNDER, DELAYS OR OTHERWISE (WHETHER A CLAIM IS BASED ON WARRANTY, STRICT LIABILITY, CONTRACT, TORT, NEGLIGENCE OR OTHERWISE).

SELLER'S TOTAL LIABILITY FOR ALL CLAIMS OF ANY KIND (WHETHER BASED ON WARRANTY, STRICT LIABILITY, CONTRACT, TORT, NEGLIGENCE OR OTHERWISE) FOR ANY LOSS OR DAMAGE ARISING OUT OF, CONNECTED WITH, OR RESULTING FROM THIS CONTRACT OR THE PERFORMANCE OR BREACH THEREOF, OR FROM THE DESIGN, MANUFACTURE, SALE, DELIVERY, RESALE, REPAIR, REPLACEMENT, INSTALLATION, TECHNICAL DIRECTION OF INSTALLATION, INSPECTION, SERVICING, OPERATION OR USE OF ANY EQUIPMENT COVERED BY OR FURNISHED UNDER THIS CONTRACT SHALL BE LIMITED TO 100% OF THE PURCHASE PRICE AMOUNT PAID BY PURCHASER TO SELLER UNDER THIS CONTRACT FOR THE SPECIFIC EQUIPMENT OR SERVICE WHICH GIVES RISE TO THE CLAIM. ALL CAUSES OF ACTION AGAINST SELLER ARISING OUT OF OR RELATING TO THIS CONTRACT OR THE PERFORMANCE HEREOF SHALL EXPIRE UNLESS BROUGHT WITHIN ON YEAR OF TIME OF ACCRUAL THEREOF.

19. MISCELLANEOUS:

19.1 If for any reason, Seller's quotation (or any other document or act by Seller) is deemed an acceptance of an offer from Purchaser, such acceptance is expressly conditional upon Purchaser's assent to any additional or different terms or conditions set forth in these Terms and Conditions of Sale.

19.2 No modification or additional term or condition shall be applicable to this contract by virtue of Seller's receipt, acknowledgment or acceptance of Purchaser's purchase order, shipping instruction forms, or other Purchaser documentation containing terms or conditions which are different from or in addition to those set forth in these Terms and Conditions of Sale. Any such modifications or additional terms or conditions are specifically rejected and deemed a material alteration hereof. Purchaser's issuance of a purchase order or Purchaser's acceptance of any drawings, Equipment, or services from Seller shall (without prejudice to any other manner in which acceptance of these Terms and Conditions of Sale may be evidenced) constitute full acceptance of these Terms and Conditions of Sale.

19.3. Neither party shall assign or transfer this contract without the prior written consent of the other party (which consent shall not be unreasonably withheld); any purported assignment in violation of this sentence shall be void. Irrespective of the foregoing, Seller may without consent assign this contract (or any of rights or obligations hereunder) to any of its affiliates and use sub-contractors.

19.4. If any part of this document is held by a court of competent jurisdiction to be invalid or unenforceable for any reason, such invalidity or enforceability does not affect any other provision, and this document shall be construed as if the invalid or unenforceable provision had never been set forth.

19.5. Neither party's failure to enforce, or its waiver of a breach of, any provision contained in this document shall constitute a waiver of any other breach or of such provision.

19.6. The validity, performance, and all other matters relating to the interpretation and effect of this contract shall be governed by the laws of the State of Texas, USA, without regard to its conflict of laws principles, and the exclusive forum shall be the State of Texas. The United Nations Convention on the International Sale of Goods shall not apply.

19.7 These Terms and Conditions of Sale cannot be superseded, amended, or modified except by a written document signed in handwriting by Seller's duly authorized officer and Buyer's duly authorized representative.

19.8. All headings, captions and numbering in these Terms and Conditions of Sale are for convenience of reference only and shall not be used to interpret any meaning of any terms or condition.

19.9. Seller and Purchaser are independent contractors; neither party shall act as the agent for the other. This contract is between Seller and Purchaser alone, and there are no intended rights or benefits provided hereunder to any third party.