City of Ketchum and Sun Valley Water & Sewer District

Ketchum / SVWSD Water Reclamation Facility
Aeration Upgrades

ADDENDUM NO. 3

February 21, 2024

TO: Prospective Bidders

FROM: HDR (Engineer)
412 East Parkcenter Boulevard, Suite 100
Boise, Idaho 83716

OWNERS:

City of Ketchum
P.O. Box 2315
191 5th Street West
Ketchum, Idaho 83340

Sun Valley Water and Sewer District
49 Larrys Lane
Sun Valley, Idaho 83353

SUBJECT: Ketchum / SVWSD WRF – Aeration Upgrades

This Addendum is part of the Bidding Documents and the Contract Documents and modifies the original Bidding Documents dated January 10, 2024, as indicated below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification for award of the associated Contract.

This Addendum consists of 3 pages and the attachments, if any, listed on the third page.

CHANGES TO PRIOR ADDENDA

None

CHANGES TO INTRODUCTORY INFORMATION

None

CHANGES TO BIDDING REQUIREMENTS

None

CHANGES TO CONTRACTING REQUIREMENTS

3.01 Section 00 21 13 Instructions to Bidders: Edit Article 3.02 as indicated below:.

3.02 Bidder is to submit the following information with its Bid to demonstrate Bidder's qualifications to perform the work:

A. Bidders state (or other) contractor license number.

B. Subcontractor and Supplier qualification information (apparent low-bidder only).

C. Other required information regarding qualifications (apparent low-bidder only).

3.02 Section 00 41 13 - Bid Form (EJCDC C-410-2018): Edit Article 3.01.B to include contingency allowance for materials testing. Full replacement Bid Form supplied for bidder convenience.

CHANGES TO GENERAL REQUIREMENTS AND TECHNICAL SPECIFICATIONS

3.03 01 73 20 - Cutting and Patching: Edit Article 1.5.A as indicated below:

1.5 SITE CONDITIONS

A. For purposes of this Project, water table level varies year to year and seasonally. Data for the last five years is presented in Section 31 23 19 - Dewatering.

3.04 40 05 51 - Valves - Basic Requirements: Edit Article 3.4.A as indicated below:

3.4 ACTUATED VALVE SCHEDULE

A. Refer to actuated valve schedule on Drawings.

3.05 40 05 62 - Plug Valves: Add Section in its entirety.

3.06 46 41 00 - Mixers: See attached revision to Specification Section.

CHANGES TO DRAWINGS

3.07 Drawing D-104: Process - Aeration Basins No. 3 and 4 Overall Diffuser Plan: Modify the Drawings as shown by Addendum No. 3 revision (removed one diffuser per Zone 2 in accordance with diffuser shop drawings).

3.08 Drawing D-106: Process - Aeration Basin Zone 2 Plans: Modify the Drawings as shown by Addendum No. 3 revision (removed one diffuser per Zone 2 in accordance with diffuser shop drawings).

3.09 Drawing D-301: Process - Blower Building Aeration Blower Sections: Modify the Drawings as shown by Addendum No. 3 revision.

3.10 Drawing D-302: Process - Floating Mixer and MLR Pump Sections: Modify the Drawings as shown by Addendum No. 3 revision.

3.11 Drawing Y-001: Process & Instrumentation Diagram - Aeration Basin 03: Modify the Drawings as shown by Addendum No. 3 revision.

3.12 Drawing Y-002: Process & Instrumentation Diagram - Aeration Basin 04: Modify the Drawings as shown by Addendum No. 3 revision.

3.13 Drawing Y-003: Process & Instrumentation Diagram - Blowers: Modify the Drawings as shown by Addendum No. 3 revision.

ATTACHMENTS

3.14 New Specifications attachments hereto are as follows:

- 00 41 13 - Bid Form (EJCDC C-410-2018).
- 40 05 62 - Plug Valves.
- 46 41 00 - Mixers.

3.15 New Drawings attachments hereto are as follows:

- Replacement Drawing D-104: Process - Aeration Basins No. 3 and 4 Overall Diffuser Plan.
- Replacement Drawing D-106: Process - Aeration Basin Zone 2 Plans.
- Replacement Drawing D-301: Process - Blower Building Aeration Blower Sections.
- Replacement Drawing D-302: Process - Floating Mixer and MLR Pump Sections.
- Replacement Drawing Y-001: Process & Instrumentation Diagram - Aeration Basin 03.
- Replacement Drawing Y-002: Process & Instrumentation Diagram - Aeration Basin 04.
- Replacement Drawing Y-003: Process & Instrumentation Diagram – Blowers.

THIS ADDENDUM IS MADE PART OF THE CONTRACT DOCUMENTS AND SHALL BE NOTED ON THE BID PROPOSAL.

02/21/2024

Bradley S. Bjerke Idaho PE #8778 Date

Bradley S. Bjerke, P.E.
Senior Project Manager
HDR Engineering, Inc.
412 E. Parkcenter Blvd, Suite 100
Boise, ID 83706
(208) 387-7073
(208) 841-3822

END OF ADDENDUM NO. 3

BID FORM

FOR CONSTRUCTION CONTRACT

CITY OF KETCHUM AND SUN VALLEY WATER & SEWER DISTRICT

AERATION UPGRADES

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to: City of Ketchum/Sun Valley Water & Sewer District; 191 5th Street West (PO Box 2315), Ketchum, ID, 83340. Attention Trent Donat.

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

2.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security;

B. List of Proposed Subcontractors and associated license numbers (table in this Bid Form);

C. Evidence of authority to do business in the state of the Project; and

D. Contractor's license number as evidence of Bidder's State Contractor's License with the Class commensurate with the value of the Work.

ARTICLE 3—BASIS OF BID—LUMP SUM BID

3.01 *Lump Sum Bids*

A. Bidder will complete the Work in accordance with the Contract Documents for the following lump sum price:

1. Lump Sum Price (Single Lump Sum)

Lump Sum Bid Price (in numbers)	$

_____

_____

(written amount)

B. All contingency allowances shown below are included in the Lump Sum Bid Price set forth above, and will be managed in accordance with Paragraph 13.02 of the General Conditions.

Lump Sum Contingency Allowance 1 (Dewatering)	$25,000
Lump Sum Contingency Allowance 2 (Geotechnical)	$10,000
Lump Sum Contingency Allowance 3 (Materials Testing)	$10,000
Total for all Lump Sum Contingency Allowances	$45,000

ARTICLE 4—TIME OF COMPLETION

4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of days indicated in the Agreement.

4.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 5—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, SUBCONTRACTOR'S LIST, AND RECEIPT OF ADDENDA

5.01 *Bid Acceptance Period*

A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

5.02 *Instructions to Bidders*

A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

5.03 *Subcontractors List*

A. As required by Idaho Statute (67-2310), Contractor shall list "self" and appropriate specialty license number or Subcontractor name, address, and license number.

Discipline	Name and Address	License No.
Plumbing		
HVAC		
Electrical		

5.04 *Receipt of Addenda*

A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Bidder's Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.

2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.

3. Bidder has not solicited or induced any individual or entity to refrain from bidding.

4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:

a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.

b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.

c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.

d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

_____

(typed or printed name of organization)

By: _____

(individual's signature)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Date: _____

(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest: _____

(individual's signature)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Date: _____

(typed or printed)

Bidder's Address for giving notices:

_____

_____

Bidder's Contact Person:

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Phone: _____

Email: _____

Address:

_____

_____

_____

Bidder's Contractor License No.: (if applicable) _____

SECTION 40 05 62
PLUG VALVES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Plug valves.

B. Related Specification Sections include but are not necessarily limited to:

1. Section 40 05 51 - Valves - Basic Requirements.

1.2 QUALITY ASSURANCE

A. Referenced Standards:

1. American Society of Mechanical Engineers (ASME):
   a. B16.1, Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125 and 250.
2. ASTM International (ASTM):
   a. A126, Standard Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings.
   b. A536, Standard Specification for Ductile Iron Castings.
   c. D2240, Standard Test Method for Rubber Property-Durometer Hardness.
3. American Water Works Association (AWWA):
   a. C517 Resilient-Seated Cast-Iron Eccentric Plug Valves

1.3 SUBMITTALS

A. Shop Drawings:

1. See Specification Section 40 05 51.

B. Contract Closeout Information:

1. Operation and Maintenance Data:
   a. See Specification Section 01 78 23 for requirements for the mechanics, administration, and the content of Operation and Maintenance Manual submittals.
2. See Specification Section 40 05 51.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Subject to compliance with the Contract Documents, the manufacturers listed under the specific valve types are acceptable.

2.2 NON-LUBRICATED ECCENTRIC PLUG VALVES (SEWAGE, SLUDGE, SEWAGE GAS APPLICATIONS)

A. Manufacturers:

1. DeZurik.
2. Henry Pratt.
3. Millikin.
4. ValMatic.

B. Materials:

1. Body: Cast-iron ASTM A126, Class B.

2. Plug: One or two-piece construction ductile iron, ASTM A536 65-45-12 or cast iron, ASTM A126 Class B.
3. Plug facing: Grease and/or petroleum-resistant resilient Neoprene or Buna-N compound, 70 Type A durometer hardness per ASTM D2240.
4. Shaft bearing bushings: Permanently lubricated TFE or Delrin sleeve type stainless steel or bronze.
5. Valve seats: Welded-in overlay of 90% nickel, (minimum 1/8 inches thick).
6. Stem seal: per AWWA C517, Section 4.4.7.

2.3 ACCESSORIES

A. Refer to Drawings and valve schedule for type of actuator.

1. Furnish actuator integral with valve.

B. Refer to Specification Section 40 05 51 for actuator requirements.

2.4 DESIGN REQUIREMENTS

A. Non-Lubricated Eccentric Plug Valves (Wastewater, Sludge):

1. Port area:
   a. Valves 4 inches through 20 inches: Equal to or exceed 80% of full pipe area.
   b. Valves greater than 20 inches: 100% equivalent full pipe area.
2. Valve body: Fitted with bolted bonnet.
3. End connections: See Specification Section 40 05 51.
4. Stem seal: Adjustable and replaceable without disassembling valve or bonnet.
5. Designed for seating drip tight in any flow direction.
6. Rating:
   a. 1/2 through 12 inches, 175 psi working pressure.
   b. 14 through 36 inches, 150 psi working pressure.
   c. Three-way valves, 125 psi working pressure.
7. Actuator:
   a. Actuator gearing in enclosure suitable for running in oil with seals on shaft to prevent entry of dirt or water.
   b. Positive identification on actuator indicating valve position.
   c. Adjustable stop to set closing torque.

2.5 FABRICATION

A. See Specification Section 40 05 51.

PART 3 - EXECUTION

3.1 INSTALLATION

A. See Specification Section 40 05 51.

B. Install valves with valve stem horizontal, plug seat on inlet side and with plug rotating up into the open position for valves in horizontal lines.

C. Install valve with actuator above pipe or plug centerline.

END OF SECTION

SECTION 46 41 00
MIXERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Floating aeration basin mixers.

B. Related Specification Sections include but are not necessarily limited to:

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. American Bearing Manufacturers Association (ABMA).
   2. American Iron and Steel Institute (AISI).
   3. National Fire Protection Agency (NFPA):
      a. 70, National Electrical Code (NEC):
         1) Article 500, Hazardous (Classified) Locations, Classes I, II, and III, Divisions 1 and 2.

1.3 SUBMITTALS

A. Shop Drawings:
   1. Product technical data including:
      a. Acknowledgement that products submitted meet requirements of standards referenced.
      b. General:
         1) Materials.
         2) Parts.
         3) Accessories.
         4) Assembly.
         5) Installation.
      c. Mixers:
         1) Manufacturer.
         2) Type and model.
         3) Design rotative speeds.
         4) Bearing types and life calculations.
         5) Dimensions and net weight.
         6) Pumping capacity and water horsepower or delivered power.
         7) Materials of construction.
         8) Mounting requirements and design forces: Torque and bending load.
         9) Disassembly procedure for impeller access.
      d. Drive units:
         1) Manufacturer.
         2) Type and model.
         3) Rated size.
         4) Temp rating and service factor.
         5) Dimensions and weight.
         6) Lubrication systems.
      e. Verification of bearing life.
      f. Manufacturer's installation instructions.
   2. Fabrication and/or layout drawings.
   3. Certifications.
   4. Test reports.

B. Contract Closeout Information:

1. Operation and Maintenance Data:
    a. See Specification Section 01 78 23 for requirements for the mechanics, administration, and the content of Operation and Maintenance Manual submittals.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
1. Aqua-Aerobic Systems, Inc SS Endura® Series AquaDDM® Mixer.
2. Aerator Solutions, EcoJet™ DDM Mixer.
3. Evoqua Water Technologies, Aqua-Lator™ Direct Drive Mixer.

2.2 MATERIALS

A. Floating aeration basin mixers:
1. Mixer housings: 304 Stainless steel.
2. Impeller shaft: Stainless steel, 17-4 PH.
3. Propeller: 316 Stainless steel.
4. Mooring: 304 Stainless steel.
5. Floats: 304 Stainless steel.

2.3 PERFORMANCE AND DESIGN REQUIREMENTS

A. Floating aeration basin mixers (MXR-303 & MXR-304):
1. Aeration Basin Zone Dimensions.
    a. Length: 39.25 feet.
    b. Width: 46 feet.
    c. Sidewater Depth: 12 feet.
2. Design Maximum Mixed Liquor Suspended Solids: 5,000 mg/L.
3. Number of units: 2.
4. Number of impellers per mixer: One.
5. Propeller diameter: 11.5 inches.
6. Motor HP: 7-1/2 HP maximum.
7. Rotating speed: 1,200 rpm.
8. Drive type: Single speed.
9. Mixer rotation viewed from overhead:
    a. ABM-5203: CW.

B. Bearing life at full nameplate horsepower: Minimum ABMA L-10 of 100,000 hours.

2.4 FABRICATION AND MANUFACTURE

A. Floating aeration basin mixers:
1. Motor:
    a. 460 V, 3 PH, 60 Hz.
    b. TEFC, 1.15 square feet.
    c. Energy-efficient type.
    d. Vertical P base design.
    e. Aeration basin mixers: 1,200 rpm.
    f. Class F non-hygroscopic insulation.
    g. Provide mixer with motor approved for Class 1 Division 2 service.
    h. Rain cap constructed of 304 stainless steel.
    i. Stainless steel motor nameplate, including the following information: voltage, speed, insulation class, amperage, service factor, wiring diagram, motor serial number, and the manufacturer's name and address shall be steel stamped or otherwise permanently marked.
2. Motor Shaft:

a. One-piece motor shaft, continuous from the top motor bear, through the lower bearing and down to and through the impeller.
b. Diameter: 2 inches
c. Material: 17-4 PH stainless steel.
d. Minimum Yield Strength: 100,000 PSI.
e. Maximum Allowable Full length Shaft Run Out: 0.006 inches T.I.R.
f. Mixer motor shaft shall operate freely without contacting bearing or bushing other than the motor bearings.

3. Motor Bearings:
   a. Motor bearings shall be regreasable. Sealed bearing are not acceptable.
   b. Top bearing shall be shielded on bottom side only. Bottom bearing shall be open.
   c. Top and bottom motor bearings shall be of the combined radial and axial thrust type and shall be factory-packed with "high performance" grease.
   d. The lower motor bearing inner race shall be locked to the motor shaft via a special washer and locking nut arrangement.
   e. The shaft shall be threaded just below the lower bearing and shall have a keyway cut into the motor shaft. This keyway shall accept a tab from the I.D. of the locking washer, and the locking nut shall have recesses to accept a tab from the O.D. of the locking washer to prevent the nut from backing off.
      1) Snap ring type bearing retainers will not be acceptable.
   f. Bearings shall be designed for an L-10 rating life of at least 100,000 hours.
4. Floats and Platform:
   a. 14-gauge 304 stainless steel skin filled with 2.0 pounds per cubic foot closed cell polyurethane.
   b. Minimum Reserve Buoyancy: 760 lbs.
   c. 6 mooring points spaced for 4 points around the outer circumference.
5. Propeller:
   a. Two-blade marine type precision casting.
   b. Designed to pump liquid from near the surface and direct it down towards the basin bottom.
   c. Streamlined to prevent cavitation and reduce drag. Propeller shall include 180 DEG trailback blades to ensure non-clog operation.
   d. Capable of operating in reverse to cause backflow movement without damage to the mixer chassis and without causing upflow liquid damage to the motor bearings and windings.
   e. Securely attached to the motor shaft such that reverse operation will not loosen connection.
   f. Propeller shall be "pitch balanced" to ensure equalization of load under full flow operation. Each blade's pitch and rake shall not vary more than 2.0 PCT from the other.
   g. Propeller shall be pitched such that the drive motor is loaded between 88 to 95 PCT of full load nameplate horsepower.
   h. No liquid spray or leakage upward onto the surface of the motor support or float shall be acceptable.
6. Intake Volute Assembly:
   a. Propeller shall operate in a volute made of 304 stainless steel plate with a minimum volute diameter of 12 inches.
   b. Volute shall be welded to and aligned concentrically with motor base and float without shims or external adjustment.
7. Mooring:
   a. 180 feet of 7 x 19 x 3/16" high flex 304 stainless steel mooring cable per mixer.
      1) Provide one (1) full spare set of mooring cables.
   b. 12 cable clips and 6 thimbles constructed of 316 stainless steel to moor equipment using a 4-point connection.
8. Electrical Service Cable:
   a. Set(s) of 50-foot electrical cable and appurtenances for 460 V, 7-1/2 HP operation.

b. Includes electrical cable, kellums, and spiral wraps.
c. Cable shall be attached to one of the mooring cables with non-corrosive aerial support cable ties with spacers to prevent electrical cable from touching the mooring cable.
   1) Cable support ties shall be spaced a minimum of five feet on center.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Verify that structures, pipes, and equipment are compatible.

B. Install per manufacturer's recommendation.

C. Make adjustments required to place system in proper operating condition.

3.2 BALANCING

A. The entire rotating assembly including the motor rotor, shaft, shaft accessories, and propeller shall be dynamically balanced within 2.0 mils peak-to-peak horizontal displacement measured at the upper and lower motor bearing.

B. Measurements shall be taken at a frequency equivalent to the motor RPM.

C. Transducer pickup points shall be at the motor bearings on the motor frame perpendicular to the motor shaft.

D. Measurements shall be taken with the motor in a vertical, shaft down position with the entire power section mounted on resilient pads.

3.3 FIELD QUALITY CONTROL

A. Manufacturer shall check and approve mixer installation before field operation, verify conformance with Contract Documents, and test and operate mixers in the presence of Engineer and/or Owner.

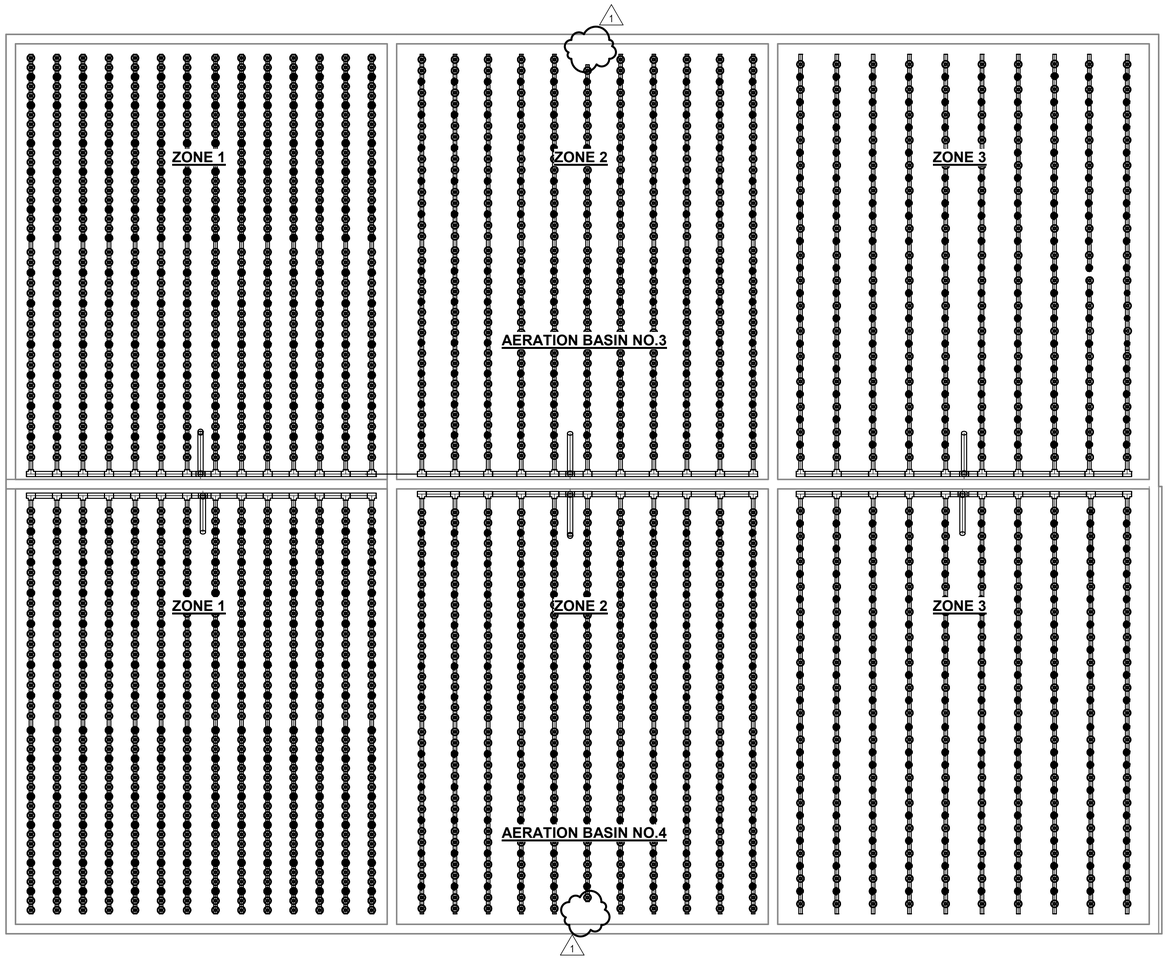
B. Demonstrate the power demand of each drive motor does not exceed nameplate horsepower or nameplate fill load ampere rating.

C. Demonstrate each mixer is capable of operating without undue noise or vibration. Adjust, repair, or replace defective equipment.

D. Furnish necessary equipment required for testing mixers and properly calibrating instruments.

E. Provide services of equipment manufacturer's field service representative(s) to:
   1. Inspect equipment covered by this Specification Section.
   2. Supervise pre-start adjustments and installation checks.
   3. Conduct initial start-up of equipment and perform operational checks.
   4. Instruct Owner's personnel for the specified minimum number of hours at jobsite per Specification Section 01 75 00 on operation and maintenance of each of following pumping equipment:
      a. Section 46 41 00 - Mixers, 8 hours

END OF SECTION



1 AERATION BASINS NO.3 AND NO.4 OVERALL EXISTING DIFFUSER PLAN

1/8" = 1'-0"

GENERAL NOTES

1. DIFFUSER CONDITION SHOWN ARE EXISTING. BLACK DIFFUSERS SHOWN REPRESENTS EXISTING BLANK DIFUSSERS. SEE ENLARGED PLANS AND NEW AERATION BASIN DIFFUSER LAYOUT FOR UPDATES.
2. REFER TO SPECIFICATION SECTION 01 11 00 AND 01 14 16 FOR ANY ADDITIONAL IN-BASIN WORK NOT SHOWN.
3. APPROXIMATELY 1.75 FEET (APPROX. 350 CY) OF GRIT IS ANTICIPATED TO BE ACCUMULATED IN AERATION BASIN 04 AND SHALL BE REMOVED BY THE CONTRACTOR. AERATION BASIN 03 HAS BEEN CLEANED BY OWNER AND WILL NOT REQUIRE GRIT REMOVAL.
4. BASIN WILL REQUIRE TIME TO DRY SETTLED GRIT PRIOR TO REMOVAL. GRIT WILL DRY TO UP TO 30 PERCENT SOLIDS, DEPENDENT ON DRYING TIME. COORDINATE RECOMMENDED DRYING TIME WITH OWNER.
5. GRIT AND OTHER SOLIDS REMOVED FROM AERATION BASINS MUST BE DISPOSED OF IN OWNER'S DRYING BEDS AT OHIO GULCH.

EXISTING AERATION BASIN DIFFUSER LAYOUT

AB ZONES	ELEMENTS INSTALLED	BLANKS REMAIN	LENGTH (FT)	WIDTH (FT)	VOLUME (MG)
AB3 Z1	410	164	46	39.25	0.162
AB3 Z2	290	127	46	39.25	0.162
AB3 Z3	160	160	46	39.25	0.162
AB4 Z1	410	164	46	39.25	0.162
AB4 Z2	290	127	46	39.25	0.162
AB4 Z3	160	160	46	39.25	0.162

NEW AERATION BASIN DIFFUSER LAYOUT

AB ZONES	ELEMENTS INSTALLED	BLANKS REMAIN	DISCS REMOVED	LENGTH (FT)	WIDTH (FT)	VOLUME (MG)
AB3 Z1	410	164	0	46	39.25	0.162
AB3 Z2	417	0	0	46	39.25	0.162
AB3 Z3	299	12	9	46	39.25	0.162
AB4 Z1	410	164	0	46	39.25	0.162
AB4 Z2	417	0	0	46	39.25	0.162
AB4 Z3	299	12	9	46	39.25	0.162

ISSUE	DATE	DESCRIPTION
1	02/21/2024	ADDENDUM NO.3
	1/10/2024	ISSUED FOR BID

PROJECT MANAGER	BRAD BJERKE
DESIGNED BY	K. THOMAS
DRAWN BY	E. SJOBERG
CHECKED BY	D. HARMON
PROJECT NUMBER	10360008

PROFESSIONAL ENGINEER REGISTERED 8779 STATE OF IDAHO BRADLEY S. BJERKE

1/10/2024

KETCHUM/SVSWD WASTEWATER TREATMENT PLANT

AERATION IMPROVEMENTS

PROCESS
AERATION BASINS NO.3 AND 4
OVERALL DIFFUSER PLAN

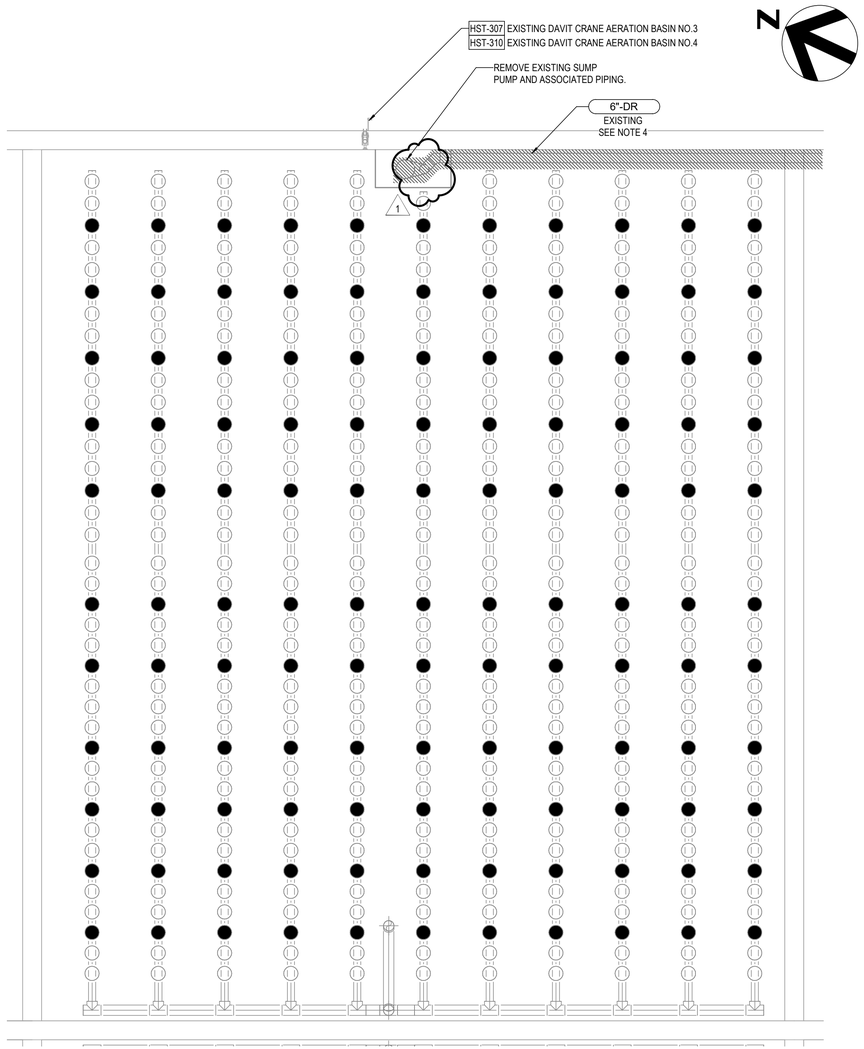
0 1" 2"

FILENAME

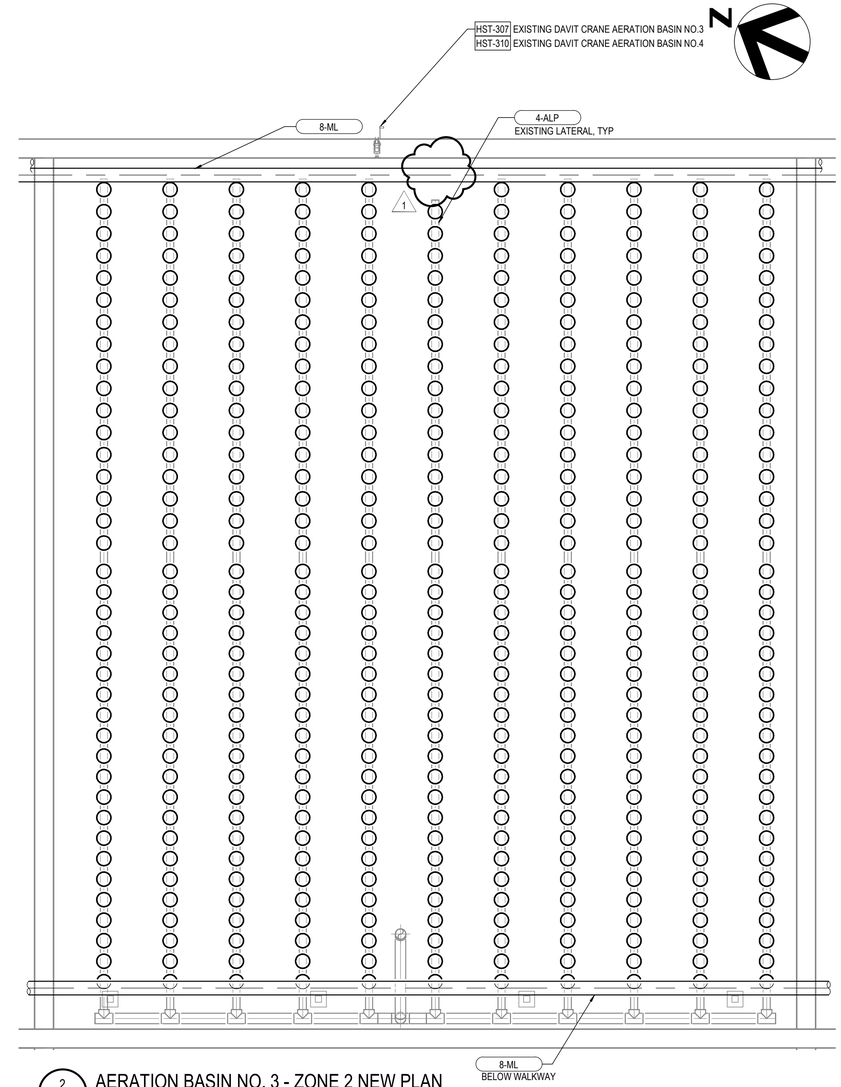
SCALE 1/8" = 1'-0"

SHEET D-104

Autodesk Docs://10360008_Ketchum-SVWSD_VRF_Blower_and_Dewatering_2022/10360008_Ketchum_Aeration Basin 3-4_D.rvt
2/19/2024 9:38:22 AM



1 D-103 AERATION BASIN NO. 3 - ZONE 2 EXISTING PLAN
1/4" = 1'-0"



2 D-103 AERATION BASIN NO. 3 - ZONE 2 NEW PLAN
1/4" = 1'-0"

GENERAL NOTES:

1. AERATION BASIN NO.4 ZONE 2 MIRROR IMAGE.
2. REPLACE 127 EXISTING BLANK DIFFUSERS WITH NEW DIFFUSER HOLDER AND ELEMENTS PER GRID.
3. REPLACE 290 EXISTING CERAMIC DIFFUSER ELEMENTS WITH NEW MEMBRANE DIFFUSER ELEMENTS PER GRID.
4. SEE SHEET XD-103 FOR DEMO DETAILS.

ISSUE	DATE	DESCRIPTION
1	02/21/2024	ADDENDUM NO.3
	1/10/2024	ISSUED FOR BID

PROJECT MANAGER	BRAD BJERKE
DESIGNED BY	K. THOMAS
DRAWN BY	E. SJOBERG
CHECKED BY	D. HARMON
PROJECT NUMBER	10360008

PROFESSIONAL ENGINEER REGISTERED 8779 STATE OF IDAHO BRADLEY S. BJERKE
1/10/2024

KETCHUM/SVSWD
WASTEWATER TREATMENT PLANT

AERATION IMPROVEMENTS

PROCESS
AERATION BASIN ZONE 2 PLANS

0 1" 2"

FILENAME

SCALE 1/4" = 1'-0"

SHEET D-106

Autodesk Docs://10360008_Ketchum-SVWSD_WRF_Blower_and_Dewatering_2022/10360008_Ketchum_Aeration Basin 3-4_D.rvt
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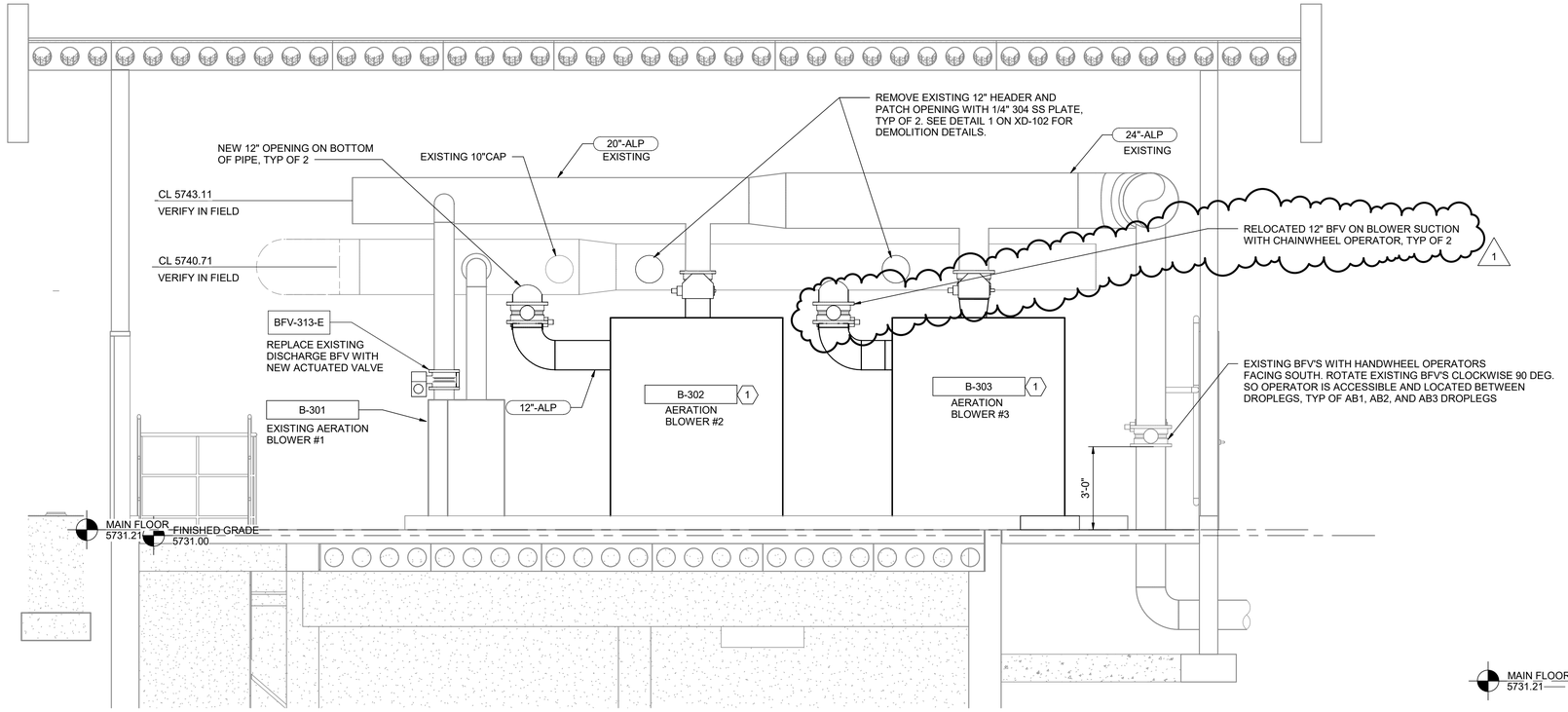
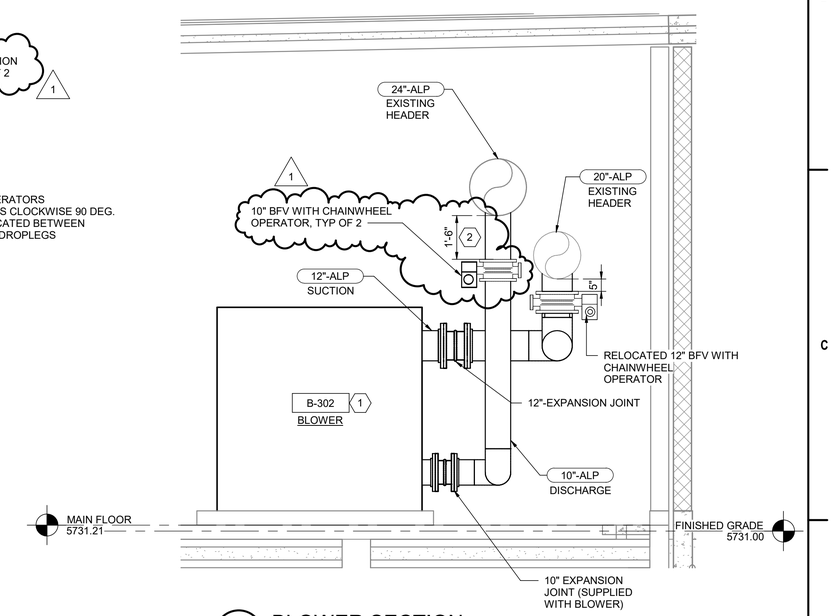


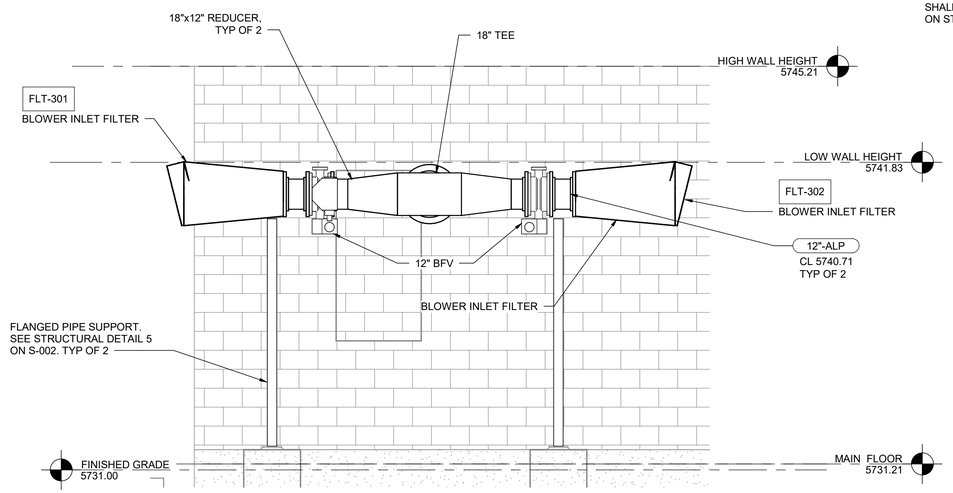
A D-101 BLOWER SECTION
3/8" = 1'-0"

KEYNOTES

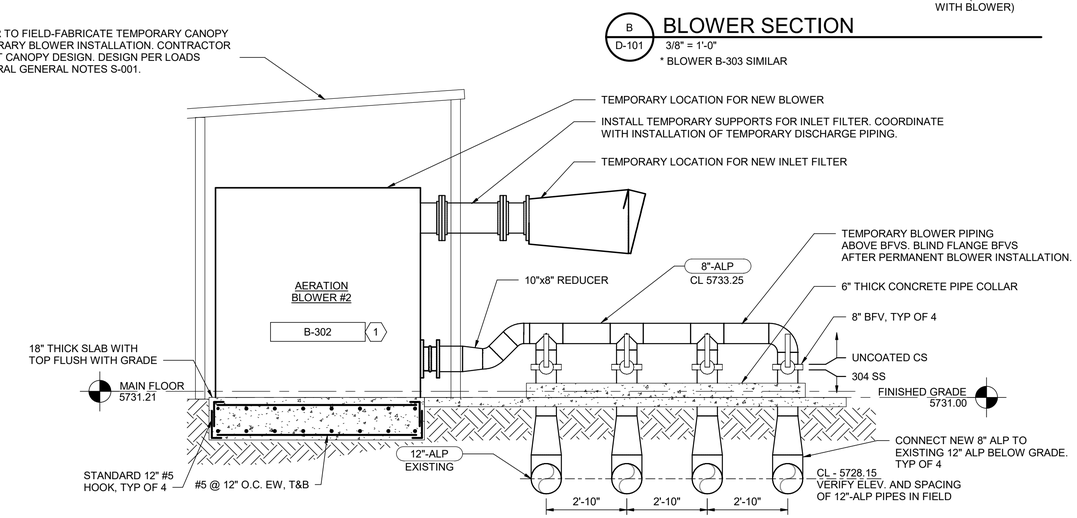
1. OWNER FURNISHED EQUIPMENT.
2. MODIFY EXISTING 8" CONNECTION TO DISCHARGE HEADER FOR EXISTING B-302 AND B-303 FOR USE WITH NEW 10" DISCHARGE PIPING.



B D-101 BLOWER SECTION
3/8" = 1'-0"
* BLOWER B-303 SIMILAR



C D-101 BLOWER INLET SECTION
3/8" = 1'-0"



D D-101 TEMPORARY EXTERIOR BLOWER SECTION
3/8" = 1'-0"

ISSUE	DATE	DESCRIPTION
1	02/21/2024	ADDENDUM NO.3
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PROJECT MANAGER	BRAD BJERKE
DESIGNED BY	K. THOMAS
DRAWN BY	E. SJOBERG
CHECKED BY	D. HARMON
PROJECT NUMBER	10360008

PROFESSIONAL ENGINEER REGISTERED 8779 STATE OF IDAHO BRADLEY S. BJERKE
1/10/2024

KETCHUM/SVSWD WASTEWATER TREATMENT PLANT

AERATION IMPROVEMENTS

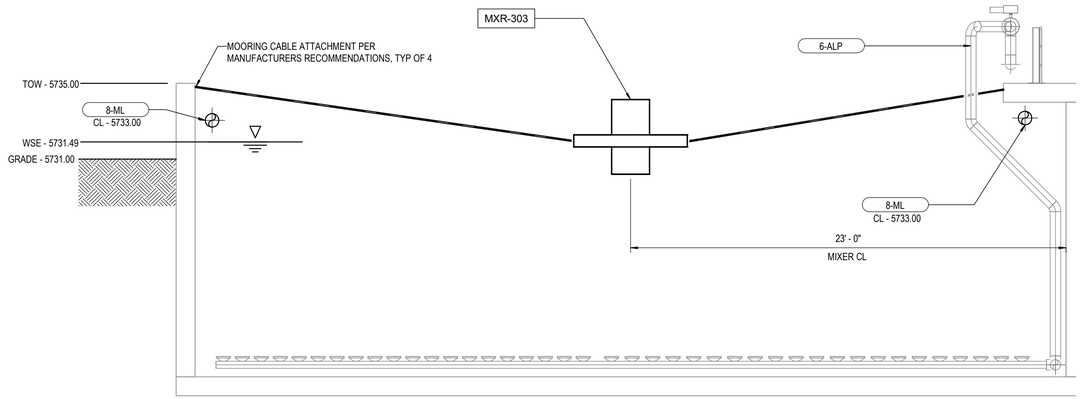
PROCESS
BLOWER BUILDING
AERATION BLOWER SECTIONS

0 1" 2"

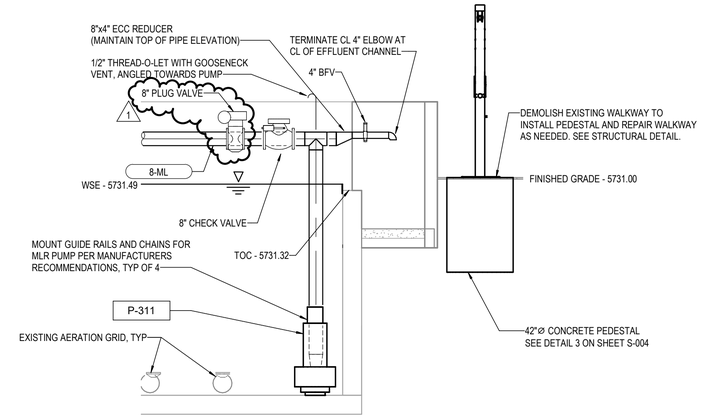
FILENAME HDRE_ALL_DISCIPLINES.rte
SCALE 3/8" = 1'-0"

SHEET D-301

Autodesk Docs://10360008_Ketchum-SVWSD_WRF_Blower_and_Dewatering_2022/10360008_Ketchum_Blower Building_D.rvt
2/19/2024 1:24:56 PM



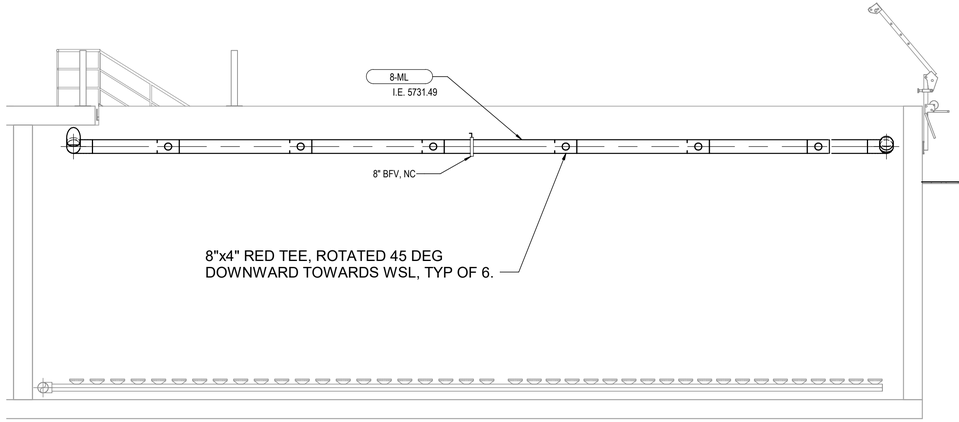
A D-103 ANOXIC MIXER SECTION
1/4" = 1'-0"



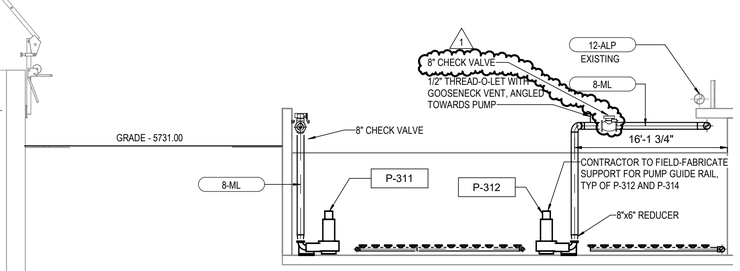
B D-103 MLR PUMP 5 SECTION
1/4" = 1'-0"

GENERAL NOTES:

1. AERATION BASIN NO.4 ZONE 3 MIRROR IMAGE.
2. REPLACE 150 EXISTING BLANK DIFFUSERS WITH NEW DIFFUSER HOLDER AND ELEMENTS PER GRID.
3. REPLACE 160 EXISTING CERAMIC DIFFUSER ELEMENTS WITH NEW MEMBRANE DIFFUSER ELEMENTS PER GRID.
4. SEE SHEET XD-103 FOR SUMP PUMP AND PIPING DEMO DETAILS.
5. DEMOLISH 2 EXISTING CERAMIC DIFFUSERS AND 2 EXISTING BLANKS DIFFUSERS, TYP OF P-311 AND P-314 INSTALLATION.
6. REPLACE 3 EXISTING CERAMIC DIFFUSERS WITH NEW BLANK DIFFUSERS AND RETAIN 2 EXISTING BLANK DIFFUSERS, TYP OF P-311 AND P-314 INSTALLATION.
7. DEMOLISH 3 EXISTING CERAMIC DIFFUSERS AND 2 EXISTING BLANKS DIFFUSERS, TYP OF P-312 AND P-313 INSTALLATION.
8. REPLACE 3 EXISTING CERAMIC DIFFUSERS WITH NEW BLANK DIFFUSERS AND RETAIN 4 EXISTING BLANK DIFFUSERS, TYP OF P-312 AND P-313 INSTALLATION.



C D-103 MLR DISCHARGE PIPE SECTION
1/4" = 1'-0"



D D-103 MLR PUMP 5 AND 6 SECTION
1/8" = 1'-0"

ISSUE	DATE	DESCRIPTION
1	02/21/2024	ADDENDUM NO.3
	1/10/2024	ISSUED FOR BID

PROJECT MANAGER	BRAD BJERKE
DESIGNED BY	K. THOMAS
DRAWN BY	E. SJOBERG
CHECKED BY	D. HARMON
PROJECT NUMBER	10360008

PROFESSIONAL ENGINEER REGISTERED 9779 STATE OF IDAHO BRADLEY S. BJERKE
1/10/2024

KETCHUM/SVSWD
WASTEWATER TREATMENT
PLANT

AERATION IMPROVEMENTS

PROCESS
FLOATING MIXER AND MLR PUMP
SECTIONS

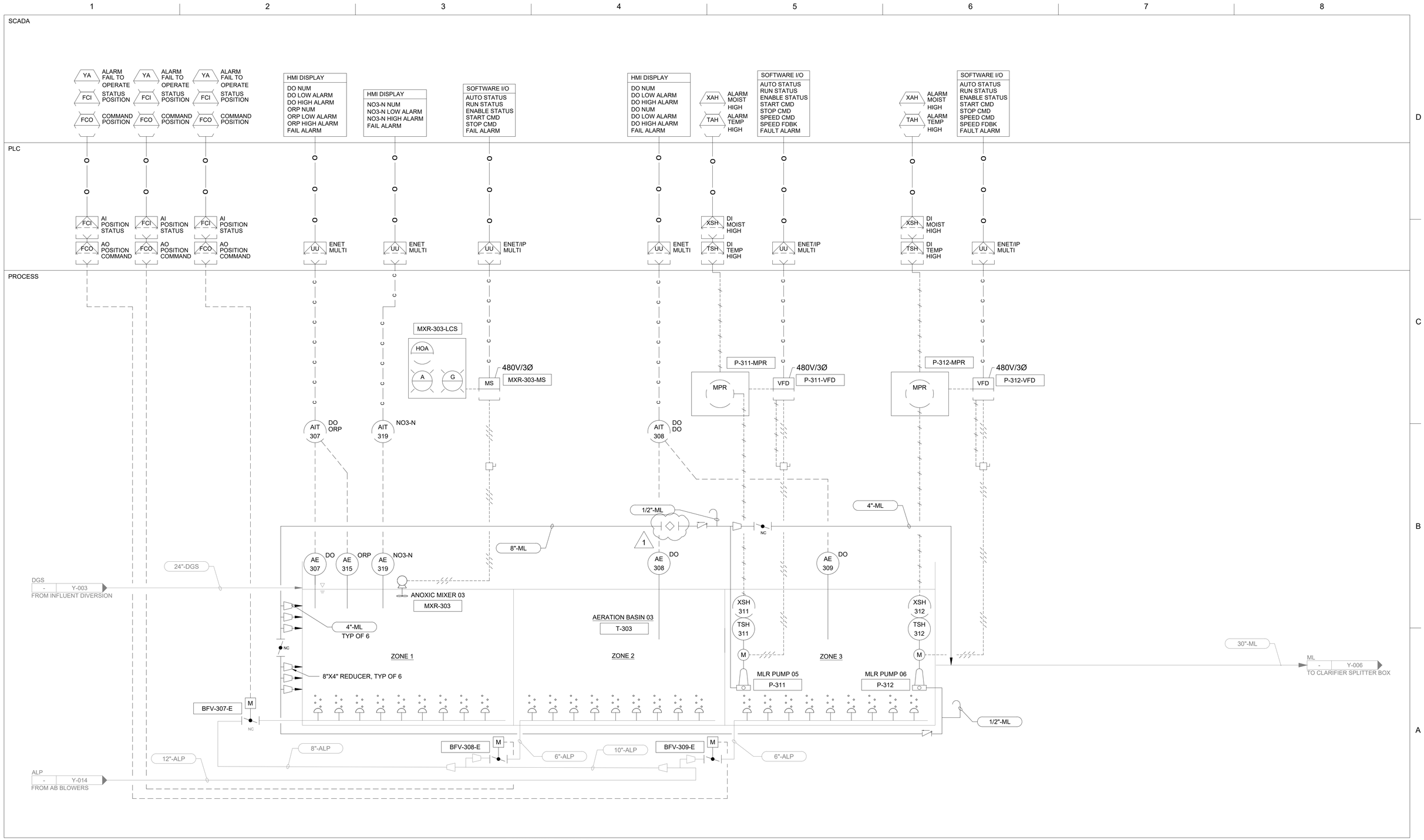
0 1" 2"

FILENAME

SCALE As indicated

SHEET
D-302

Autodesk Docs://10360008_Ketchum-SVWSD_WRF_Blower_and_Dewatering_2022/10360008_Ketchum_Aeration Basin 3-4_D.rvt
2/19/2024 1:21:40 PM



ISSUE	DATE	DESCRIPTION
1	02/21/2024	ADDENDUM NO. 3
	01/10/2024	ISSUE FOR BID

PROJECT MANAGER	BRAD BJERKE
DESIGNED BY	K. THOMAS
DRAWN BY	E. SJOBERG
CHECKED BY	D. HARMON
PROJECT NUMBER	10360008

PROFESSIONAL ENGINEER REGISTERED 8778 STATE OF IDAHO BRADLEY S. BJERKE
1/10/2024

KETCHUM/SVSWD
WASTEWATER TREATMENT PLANT

AERATION IMPROVEMENTS

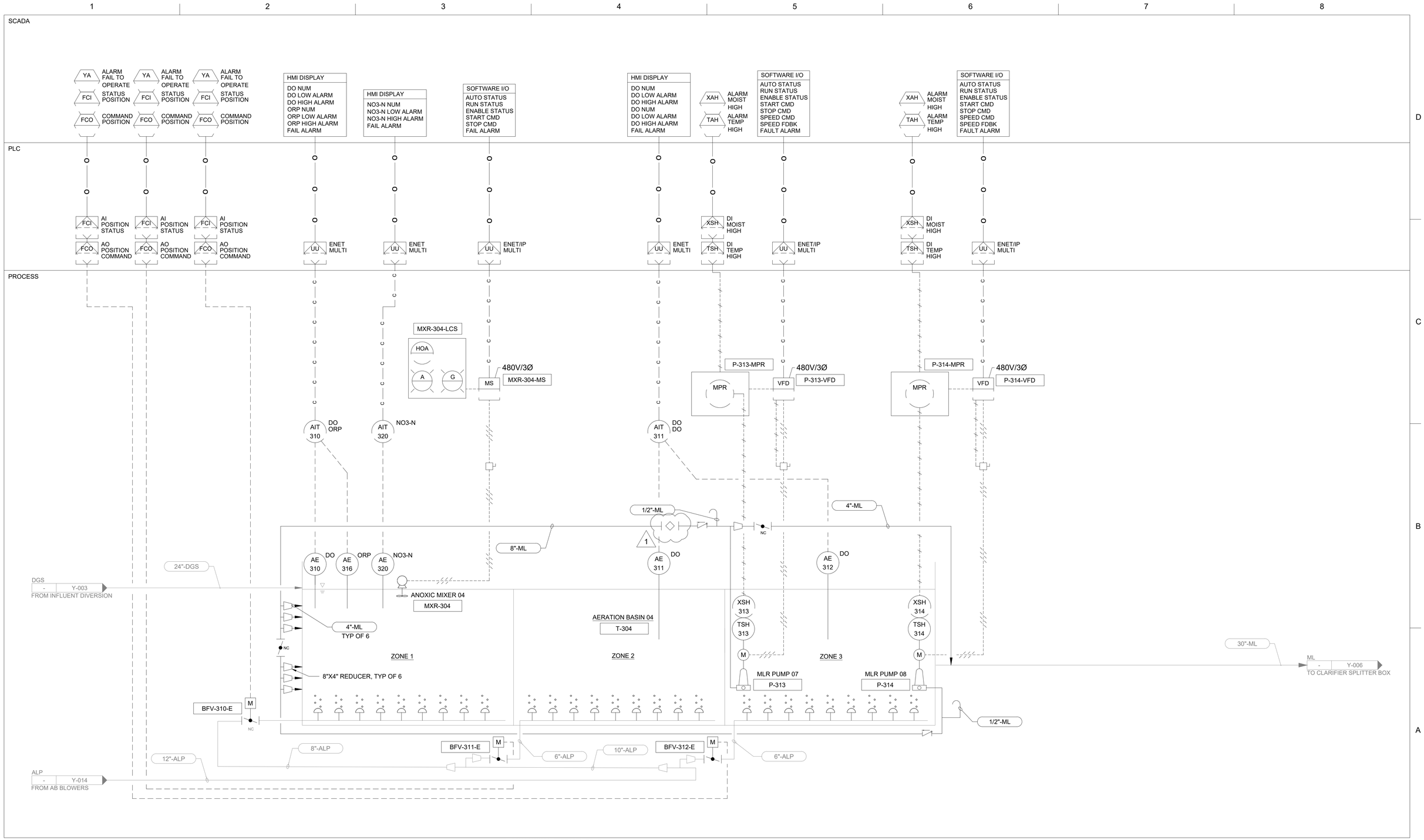
PROCESS & INSTRUMENTATION DIAGRAM AERATION BASIN 03

0 1" 2"

FILENAME -

SCALE NO SCALE

SHEET Y-001



ISSUE	DATE	DESCRIPTION
1	02/212024	ADDENDUM NO. 3
	01/10/2024	ISSUE FOR BID

PROJECT MANAGER	BRAD BJERKE
DESIGNED BY	K. THOMAS
DRAWN BY	E. SJOBERG
CHECKED BY	D. HARMON
PROJECT NUMBER	10360008

PROFESSIONAL ENGINEER REGISTERED 8778 STATE OF IDAHO BRADLEY S. BJERKE
1/10/2024

PUBLIC WORKS KETCHUM STREETS & UTILITIES

KETCHUM/SVSWD WASTEWATER TREATMENT PLANT

AERATION IMPROVEMENTS

SVWSD Sun Valley Water & Sewer District

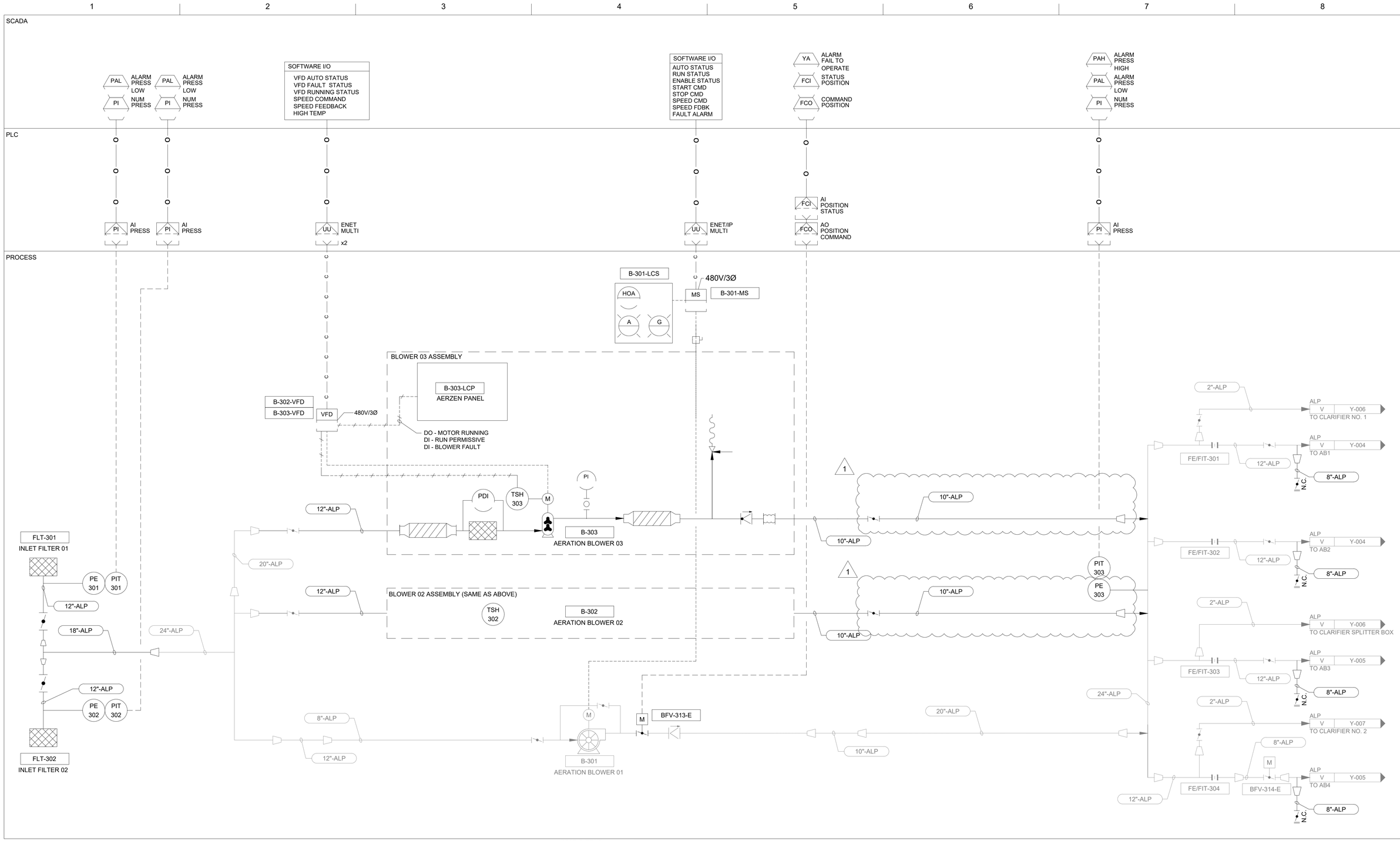
PROCESS & INSTRUMENTATION DIAGRAM AERATION BASIN 04

0 1" 2"

FILENAME -

SCALE NO SCALE

SHEET **Y-002**



1	02/21/2024	ADDENDUM NO. 3	
	01/10/2024	ISSUE FOR BID	
ISSUE	DATE	DESCRIPTION	

PROJECT MANAGER	BRAD BJERKE
DESIGNED BY	K. THOMAS
DRAWN BY	E. SJOBERG
CHECKED BY	D. HARMON
PROJECT NUMBER	10360008

PROFESSIONAL ENGINEER REGISTERED 8779 STATE OF IDAHO BRADLEY S. BJERKE
1/10/2024

KETCHUM/SVSWD WASTEWATER TREATMENT PLANT

AERATION IMPROVEMENTS

PROCESS & INSTUMENTATION DIAGRAM BLOWERS

0 1" 2"

FILENAME -

SCALE NO SCALE

SHEET Y-003