JORDAN VALLEY WATER CONSERVANCY DISTRICT

11800 South Pump Station Capacity Upgrade

ADDENDUM NO. 1
June 11, 2021

PART 1 – GENERAL

A. The following ADDENDUM shall be made part of the Contract Documents. The addendum consists of 3 pages of written text (including this cover sheet) and 4 drawing sheets for a total of 7 pages. Each Bidder shall acknowledge receipt of this addendum by signing and attaching this addendum to the bid.

B. This addendum does not change the bid date. It is still Wednesday, June 23, 2021, at 3:00 P.M.

1.1 DOCUMENTS INCLUDE

A. Changes to the Specifications and Drawings.

B. Changes to the Drawings.

PART 2 - CHANGES

Addendum to include Location and Description of Change:

Item	Location	Description of Change
1	Section 23 73 00-3	Modify Paragraph 2.02.A.4 to read as follows: Casings shall be suitable for pressures scheduled. The casing shall not exceed 0.0042 inch deflection per inch of panel span at 1.00 times design static pressure. Maximum design static shall not exceed +10 inches w.g. in all positive pressure sections and -10 inches w.g. in all negative pressure sections, vibration free with no oil-canning.
2	Section 23 73 00-4	Modify Paragraph 2.02.D to read as follows: Unit Base: Manufacturer to provide a full perimeter integral base frame for either ceiling suspension of units or to support and raise all sections of the unit for proper trapping. Indoor unit base frame will either be bolted construction or welded construction with a minimum base height of 4-inches. Unit base frames shall be constructed of galvanized steel. Unit base height to be included in total height required for proper trap height.
3	Section 23 73 00-4	Delete Paragraphs 2.03.A – 2.03.I and replace with the following: A The fan type shall be provided as required for stable operation and optimum energy efficiency.

		B The fans to be a direct plenum fan provided with electronically commutated external- rotor motor with integrated control electronics, radial aluminum impeller with backward curved, continuously welded blades. C Individual Fan Assemblies shall be statically and dynamically balanced in two planes as per DIN/ISO 1940 to balancing grade G 6.3. D Fan-to-fan interaction can cause a significant increase in individual fan vibration when mounted to the same structure. Fans applied in an array shall be tested as a system and the total fan vibration shall be less that 0.42 (in/s) RMS including all fan-to-fan interaction. This system effect shall be accounted for by the air handler manufacturer. Individual fan vibration performance values shall not be acceptable. E Fan performance shall be rated in accordance with AHRI 430-2020. Fan shall be spaced to minimize aerodynamic fan interaction. Minimum center-to-center spacing between fans shall be 1.6 diameter ratio to ensure proper performance. F Fan array shall be designed and constructed for easy field assembly and maintenance. Fan shall be assembled to bulkhead wall with minimal fasteners and the fan shall have quick disconnects for the high voltage and low voltage connections. Fan system manufacturer must stock replacement parts in North America. G Fan Electrical Power (FEP) rated in accordance with AHRI 430-2020. Motor efficiency class shall comply with IE4. H For units utilizing multiple fans in a fan section, a fan curve shall be provided showing the performance of the entire bank of fans at design conditions. In addition, a fan curve shall be provided showing the performance of each individual fan in the bank of fans at design conditions. Also, a fan curve shall be provided showing the performance of the bank of fans, if one fan is down. The percent redundancy of the bank of fans with one fan down shall be noted on the fan curve or in the tabulated fan data. I Standard Transmitter: The fan shall have an airflow measurement system to measure fan airflow directly or to measure differential pressure that can be used to calculate fan airflow. The system shall predict airflow within +/5 percent total accuracy (device & transmitter) when operating within the stable operating region of the fan curve. J External Junction Box: The fan section shall have motor leads extended to a factory-installed NEMA external junction box to facilitate wiring and to maintain air leakage integrity of the casing. A separate external junction box shall be provided for the control wiring.

4	Section 23 73 00-7	Modify Paragraph 3.01.H.1 to read as follows: The air handling units must be rigged, lifted, and installed in strict accordance with the Installation, Operation, and Maintenance manual (CLCH-SVX013A-EN). The units are also to be installed in strict accordance with the specifications. Units may be shipped fully assembled or disassembled to the minimum functional section size in accordance with shipping and job site requirements.
5	Section 23 82 16-1	Modify Paragraph 1.03.B to read as follows: See drawings for the required coil connection location on the air handling unit. Provide coil pull panel for service access.
6	Section 23 82 16-1	Modify Paragraph 2.01.A.2 to read as follows: The coils shall be seamless copper tubes, with 5/8” OD. Tubes shall have a wall thickness of 0.035”.
7	Section 23 82 16-2	Modify Paragraph 2.01.A.5 to read as follows: Nominal coil height to be 55” with a finned length of 80”.
8	Section 44 42 56-5	Modify Paragraph 2.01.L to read as follows: Manufacturer: American-Marsh, Floway, Flowserve, National, Peerless, or approved equal.
9	Section 44 42 56-5	Modify Paragraph 2.03.A to read as follows: Provide one set of mechanical seals for the pump.
10	Drawings MH-1 MH-2 MH-3 MH-4	Replace drawings MH-1, MH-2, MH-3, and MH-4 with the attached drawings. Various revisions were made and are identified with a revision cloud.

BIDDER’S CERTIFICATE

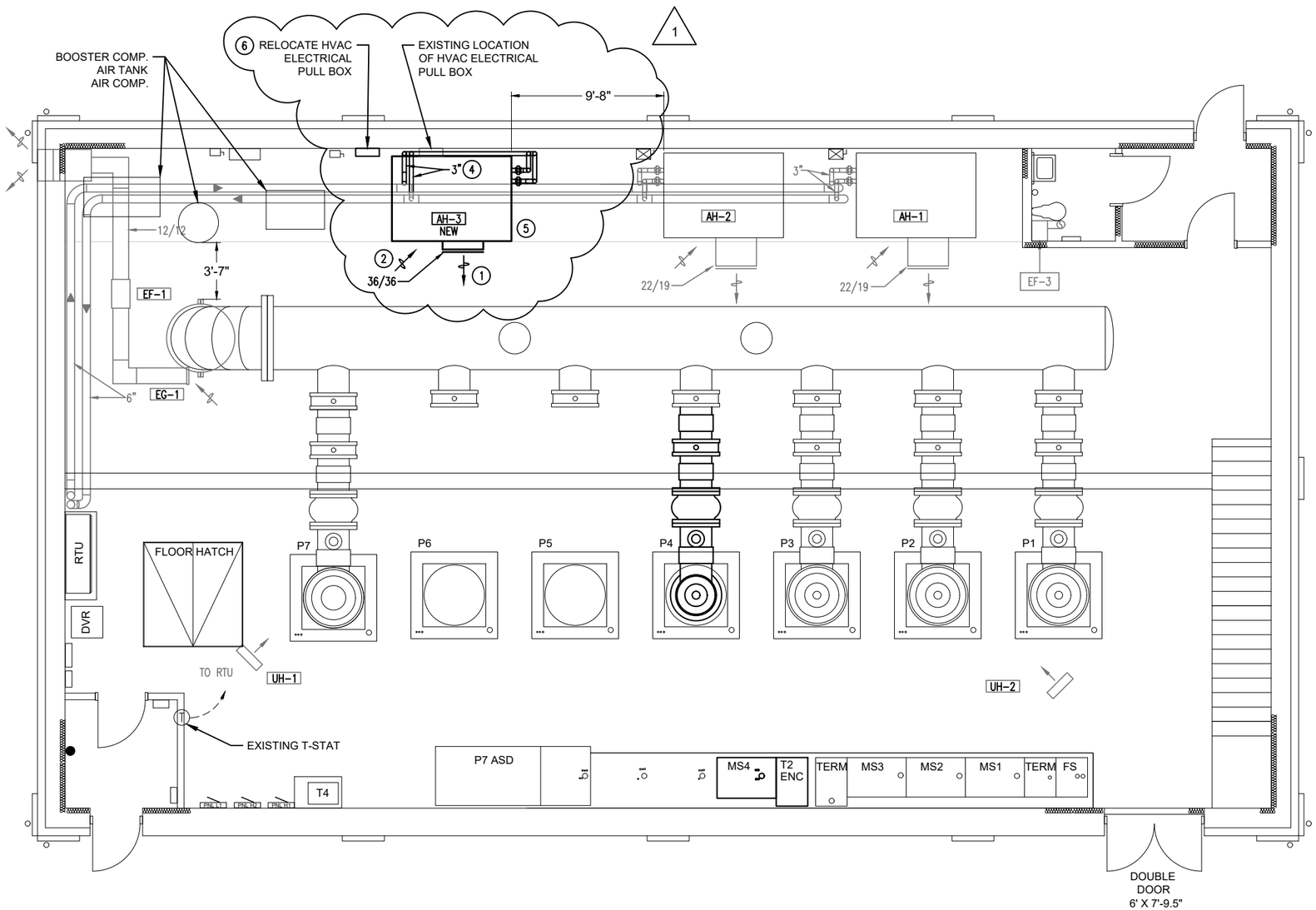
I acknowledge receipt of the foregoing Addendum No. 1 and accept all conditions contained therein.

Bidder:_____

By:_____
Signature

Date:_____

- **END OF DOCUMENT** -



GENERAL NOTES:

1. INSTALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATION.
2. SEE SEE M-2 FOR ADDITIONAL HVAC PIPING REQUIREMENTS.
3. SUPPORT DUCTWORK PER SMACNA RECOMMENDATIONS.
4. CONTRACTOR TO PARTIALLY DISASSEMBLE AND REASSEMBLE AHU-3 AS REQUIRED, TO INSTALL UNIT WITHIN THE EXISTING SPACE.

FLAG NOTES: ◯

1. CAP SUPPLY AIR DISCHARGE WITH 1" GALVANIZED EXPANDED METAL MESH SCREEN.
2. CAP RETURN AIR DISCHARGE WITH 1" GALVANIZED EXPANDED METAL MESH SCREEN.
3. INSTALL 3" SCH 80 PVC PIPING FROM EXISTING 6" CW SUPPLY AND RETURN PIPING TO AHU-3. ROUTE AND ANCHOR NEW 3" PIPING AS REQUIRED.
4. INSTALL CIRCULATION PUMP AND VALVES. SEE SHEET MH-3 FOR DETAILS.
5. ROUTE COIL CONDENSATION DRAIN TO NEAREST FLOOR DRAIN. SEE SHEET MH-4 FOR DRAIN TRAP DETAIL.
6. COORDINATE THE RELOCATION OF HVAC ELECTRICAL PULL BOX AND CONDUITS WITH THE ELECTRICAL CONTRACTOR, PRIOR TO INSTALLING AHU-3. COORDINATE WITH ELECTRICAL CONTRACTOR FOR ROUTING OF THE NEW HVAC PIPING AND EQUIPMENT.

LEGEND:

XX-X	EQUIPMENT TAG
T	ROOM TEMPERATURE TRANSMITTER
XX/XX	DUCT WIDTH X HEIGHT
	AIR FLOW DIRECTION
	BALL VALVE
	PIPE DOWN
	PIPE UP
	CONCENTRIC REDUCER
	UNION
	SWING CHECK VALVE
	BALANCING VALVE
	Y-STRAINER
	DUCT UP

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	ADDENDUM #1	KR	6/10	

Jordan Valley Water Conservancy District
8215 SOUTH 1300 WEST
WEST JORDAN, UTAH 84088
PHONE (801) 565-4300

REGISTERED PROFESSIONAL ENGINEER
7114468-2202
KEVIN D. RUBOW
STATE OF UTAH

LINE IS 1 INCH AT FULL SIZE (IF NOT 1" - SCALE ACCORDINGLY)

DESIGN:	KR
DRAWING:	KR
PROJ. MGR:	KR
APPROVAL:	

11800 SOUTH PUMP STATION CAPACITY UPGRADE

MAIN FLOOR HVAC PLAN
ADDENDUM #1

SCALE: 1/8" = 1'
DATE 6/10/2021
PROJECT NUMBER 4209
DRAWING NUMBER MH1
SHEET NUMBER 9 OF 20

I:\PUMPSTATION\11800S_325\7W ZONE C\4209 ADD PUMP # 4 & TRANSFORMER\2_ENGINEERING\DWGS\4209-118TH PS UPGRADES.DWG

0.66M

AIR HANDLER UNIT (AHU)

SYMBOL	MANUFACTURER & MODEL NO.	AIR FLOW CFM	ESP (IN H20)	ELECTRICAL				COIL						REMARKS
				VOLTS	HZ	PH	HP	FLUID	TEMP °F	MIN. TOT. COOLING (MBH)	FLOW RATE (GPM)	FLUID PRESS. DROP (FT)	AIR PRESS. DROP (IN H20)	
AH-1, AH-2	TRANE MCCB030 OR APPROVED EQUAL	16,000	0.25	460	60	3	10-1/2	H20	65	351.48	145	30.01	0.66	EXISTING EQUIPMENT TO REMAIN IN SERVICE
AH-3	TRANE PSCA-32 OR APPROVED EQUAL	16,000	0.25	460	60	3	12-1/2	H20	65	361.93	145	6.55	0.77	PROVIDE INTEGRATED FAN CONTROL W/ BYPASS OR APPROVED EQUAL

1

PUMP (P)

SYMBOL	MANUFACTURER & MODEL NO.	GPM	RATED PSI	HEAD (FT)	SIZE	WEIGHT (LB)	MOTOR					REMARKS
							VOLTS	HZ	PH	HP	RPM	
P-1, P-2	BELL & GOSSETT SERIES 80	145	175	35	3x3x7B	250	480	60	3	3	1750	EXISTING EQUIPMENT TO REMAIN IN SERVICE
P-3	BELL & GOSSETT SERIES e-80	145	175	35	3x3x7B	250	480	60	3	3	1750	RELAY CONTROL IN CONJUNCTION WITH AHU-3. PUMP MOTOR TO BE PREMIUM EFFICIENCY, TOTALLY ENCLOSED FAN COOLED.

NOTES:

1. MAXIMUM EXTERNAL DIMENSIONS FOR AHU-3 SHALL BE:
   HEIGHT = 119.5"
   WIDTH = 93.5"
   LENGTH = 65.5"

1

REVISIONS

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11800 SOUTH PUMP STATION CAPACITY UPGRADE

HVAC SCHEDULE
ADDENDUM #1

SCALE: NTS
DATE 6/10/2021
PROJECT NUMBER 4209
DRAWING NUMBER MH2
SHEET NUMBER 10 OF 20

I:\PUMPSTATION\11800S_3257W ZONE C\4209 ADD PUMP # 4 & TRANSFORMER\2_ENGINEERING\DWGS\4209-11 8TH PS UPGRADES.DWG

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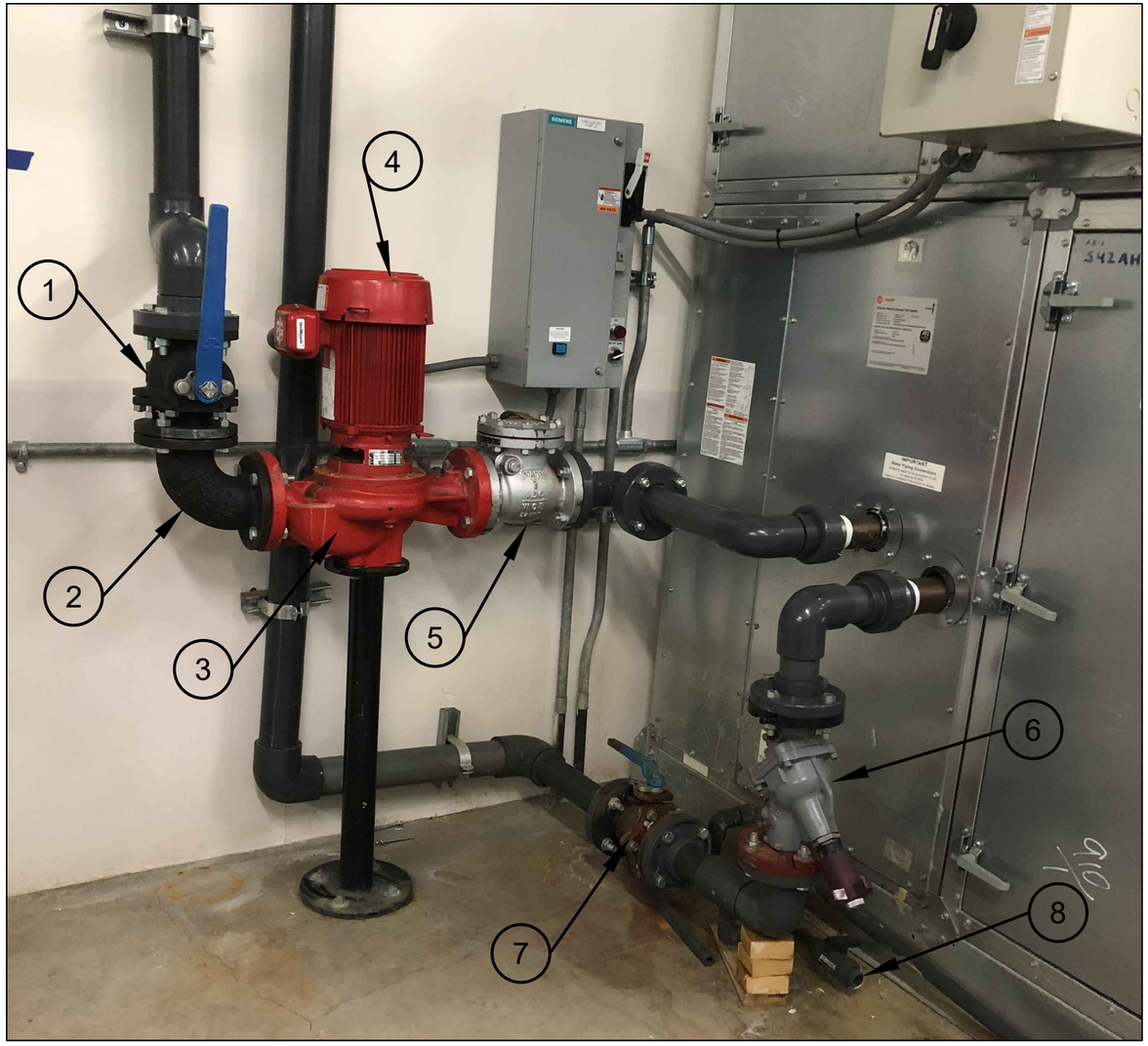

EXISTING CIRCULATION PUMP EQUIPMENT SHOWN FOR REFERENCE

AHU-3 CIRCULATION PUMP EQUIPMENT SCHEDULE					
NUMBER	DESCRIPTION	SIZE	JOINT	QTY	COMMENTS
1	FULL PORT CARBON STEEL BALL VALVE, 150# w/ 316SS STEM & 316SS BALL	3"	FLG	1	FNW VALVE - MODEL 601B, OR APPROVED EQUAL
2	DUCTILE IRON ELBOW	3"	FLG	1	
3	IN-LINE CENTRIFUGAL PUMP	3"	FLG	1	BELL & GOSSETT SERIES e-80, OR APPROVED EQUAL
4	PUMP MOTOR	--	--	1	US MOTORS, OR APPROVED EQUAL
5	SWING CHECK VALVE	3"	FLG	1	FNW VALVE - MODEL 571 - 150#, OR APPROVED EQUAL
6	BALANCING VALVE - EQUAL PERCENTAGE THROTTLING PLUG	2.5"	FLG	1	ASTM A536 DUCTILE IRON BODY, BRONZE TRIM, w/ MICROMETER HANDWHEEL ADJUSTMENT
7	FULL PORT CARBON STEEL BALL VALVE, 150# w/ 316SS STEM & 316SS BALL	2.5"	FLG	1	FNW VALVE - MODEL 601B, OR APPROVED EQUAL
8	SCH 80 PVC BALL VALVE - DRAIN ASSEMBLY	¾"	SW	1	

1

NOTES:

1. INSTALL 3" SCH 80 PVC PIPING FROM EXISTING 6" CW SUPPLY AND RETURN PIPING TO AHU-3. ROUTE AND ANCHOR NEW 3" PIPING AS REQUIRED.
2. INSTALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATION AND ACCORDING TO AHU-3 PIPING SCHEMATIC SHOWN ON SHEET MH-4.
3. INSTALL EQUIPMENT TO PROVIDE MAINTENANCE ACCESS OR REMOVAL OF AHU'S COILS. INSTALL PIPE FLANGES AS REQUIRED TO DISASSEMBLE PIPING FOR MAINTENANCE.
4. PROVIDE PUMP STAND AND ADJUSTABLE PIPE SUPPORTS AS REQUIRED FOR EQUIPMENT.
5. ALL MATERIAL OR EQUIPMENT TO BE RATED FOR MINIMUM 175 PSI WORKING PRESSURE.
6. ALL MATERIAL OR EQUIPMENT IN CONTACT WITH THE CIRCULATION WATER SHALL BE NSF-61 AND NSF-372 CERTIFIED.

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DESIGN: KR
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PROJ. MGR: KR
APPROVAL:

11800 SOUTH PUMP STATION CAPACITY UPGRADE

CIRCULATION PUMP EQUIPMENT SCHEDULE
ADDENDUM #1

SCALE: NTS
DATE 6/10/2021
PROJECT NUMBER 4209
DRAWING NUMBER MH3
SHEET NUMBER 11 OF 20

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AIR HANDLER SEQUENCE OF OPERATION:

GENERAL:

1. AIR HANDLING UNITS (AHU) CONTROL SHALL BE SET UP WITH A LEAD/LAG/LAG PROVISION BETWEEN AHU-1, AHU-2, AND AHU-3. LEAD/LAG/LAG PROVISION TO BE DETERMINED AT STARTUP ONLY.

2. EACH AHU'S TO BE CONTROLLED BY A SINGLE THERMOSTAT LOCATED ON THE WALL AND A RELAY FROM THE RTU INDICATING VERTICAL PUMP OPERATION. AHU'S SHALL ONLY OPERATE DURING OPERATION OF VERTICAL PUMPS UNDER THE "AUTO" SET POINT ON THE RTU.

3. EACH AHU SHALL BE INSTALLED WITH A VARIABLE SPEED DRIVE (VFD). THE VFD SHALL BE EQUIPPED WITH THREE DISCRETE INPUTS FOR LOW, MEDIUM, AND HIGH OPERATION (30%, 65% AND 100%). A TIME DELAY SHALL BE IMPLIED FROM STARTUP AT LOW OPERATION. IF DEMAND IS NOT MET WITHIN 10 MINUTES OF INITIATING, PRIMARY AHU WILL THEN RAMP UP TO MEDIUM. IF LOAD CONDITION IS NOT MET WITHIN AN ADDITIONAL 10 MINUTES THEN PRIMARY AHU WILL RAMP UP TO HIGH.

4. IF DEMAND IS NOT MET WITH PRIMARY AHU AT HIGH OPERATION, SECONDARY UNIT WILL STARTUP AND INITIATE ABOVE MENTIONED SEQUENCE. IF DEMAND IS NOT MET WITH PRIMARY AND SECONDARY AHU AT HIGH OPERATION, THE THIRD UNIT WILL STARTUP AND INITIATE ABOVE MENTIONED SEQUENCE.

5. ONCE SPACE TEMPERATURE HAS BEEN SATISFIED FOR 15 MINUTES (ADJUSTABLE), AHU-1 SHALL RAMP DOWN TO MEDIUM AND THEN LOW IN FIFTEEN MINUTE INTERVALS. IF THE SPACE TEMPERATURE IS STILL SATISFIED, AHU-1 SHALL COME OFF-LINE COMPLETELY ALONG WITH PUMP P-1. ONCE AHU-1 IS OFF-LINE AND THE SPACE TEMPERATURE IS STILL SATISFIED, AHU-2 SHALL COME OFF-LINE IN THE SAME SEQUENCE AS AHU-1. ONCE AHU-2 IS OFF-LINE AND THE SPACE TEMPERATURE IS STILL SATISFIED, AHU-3 SHALL COME OFF-LINE IN THE SAME SEQUENCE AS AHU-1.

6. INTEGRATED BY-PASS OF AHU VFD SHALL BE EQUIPPED WITH HAND-OFF-AUTO SWITCH. HAND WILL OPERATE ASSOCIATED UNIT AT 100% AND COMPLETELY BY-PASS THE VFD AND INPUT CONTROL POINTS. AUTO WILL OPERATE THE VFD AND UTILIZE CONTROL POINTS AS PROGRAMMED.

7. BOOSTER PUMPS WILL OPERATE IN CONJUNCTION WITH ASSOCIATED AIR HANDLING UNIT BY STARTER AND OPERATE AT 100% DURING OPERATION.

8. INSTALL A CHECK VALVE ON THE OUTLET OF THE CIRCULATING PUMP (P3) UPSTREAM OF THE REDUCER.

9. PIPING AND VALVES ARE SHOWN DIAGRAMMATIC IN NATURE FIELD CONFIRM ACTUAL PIPING AND VALVE LAYOUT.

10. AH-1, AH-2, AH-3 AND UH-1 AND UH-2 ARE TO BE CONTROLLED FROM RTU. RTU PROGRAMMING TO BE PROVIDED BY OWNER.

UNIT HEATER SEQUENCE OF OPERATION:

HEATING MODE (EXISTING EQUIPMENT):

1. ROOM SET POINT TEMPERATURE SHALL BE SET AT 65°F (ADJUSTABLE). UNIT HEATERS SHALL COME ON-LINE AS NECESSARY TO MAINTAIN SPACE SET POINT TEMPERATURE CONTROLLED BY RTU'S.

2. WALL MOUNTED THERMOSTAT WILL CONTROL UH-3 ON THE LOWER LEVEL.

MAKE-UP AIR UNIT AND EXHAUST FAN SEQUENCE OF OPERATION:

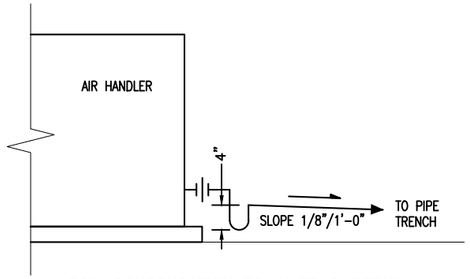
GENERAL (EXISTING EQUIPMENT):

1. BOTH THE MAKE-UP AIR UNIT (MAU) AND THE EXHAUST FAN (EF) SHALL START WHEN LIGHTS ARE TURNED ON.

2. MAU TO SUPPLY A MINIMUM OF 60°F AIR TO THE SPACE. IF SUPPLY AIR IS LESS THAN 55°F SIGNAL ALARM AND STOP MAU AND EF. ALARM SHALL BE A BLINKING LIGHT ON RTU CABINET LABELED "VENTILATION ALARM".

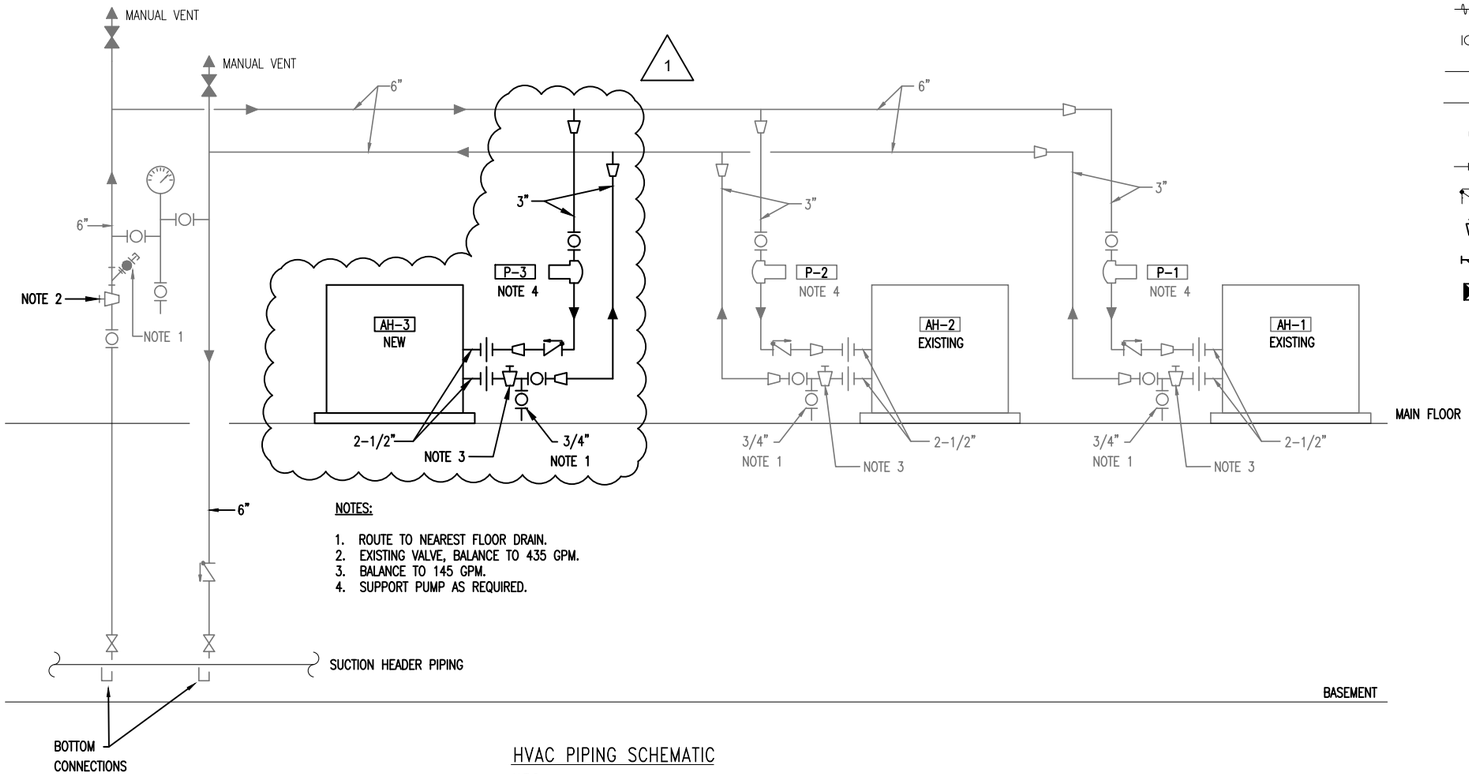
3. BOTH THE MAU AND THE EF SHALL STOP WHEN LIGHTS ARE TURNED OFF.

4. MAU AND EF SHALL ALSO OPERATE ON A TIMER AND RUN FOR 3 HOURS DAILY.



COIL CONDENSATION DRAIN TRAP DETAIL

SCALE: NTS



NOTES:

1. ROUTE TO NEAREST FLOOR DRAIN.
2. EXISTING VALVE, BALANCE TO 435 GPM.
3. BALANCE TO 145 GPM.
4. SUPPORT PUMP AS REQUIRED.

HVAC PIPING SCHEMATIC

N.T.S.

LEGEND:

XX-X	EQUIPMENT TAG
T	ROOM TEMPERATURE TRANSMITTER
XX/XX	DUCT WIDTH X HEIGHT
	AIR FLOW DIRECTION
	BALL VALVE
	PIPE DOWN
	PIPE UP
	CONCENTRIC REDUCER
	UNION
	SWING CHECK VALVE
	BALANCING VALVE
	Y-STRAINER
	DUCT UP

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11800 SOUTH PUMP STATION CAPACITY UPGRADE

HVAC PIPING SCHEMATIC
ADDENDUM #1

SCALE: NTS

DATE 6/10/2021
PROJECT NUMBER 4209
DRAWING NUMBER MH4
SHEET NUMBER 12 OF 20

I:\PUMPSTATION\11800S_3257W ZONE C\4209 ADD PUMP # 4 & TRANSFORMER\2_ENGINEERING\DWGS\4209-118TH PS UPGRADES.DWG

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