NOTICE TO BIDDERS

This Addendum is issued pursuant to the Conditions of the Contract and is hereby made part of the Contract Documents. The addendum serves to clarify, revise, and supersede information in the Project Manual, the Drawings, and previously issued Addenda. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form. Failure to do so may subject the Bidder to disqualification. A list of attachments, if any, is part of this document.

The date for receipt of bids for this project is unchanged by this Addendum.

A. CLARIFICATIONS

1. New triple duty valves and suction diffusers are required.

2. Existing pumps are to be turned over to the owner after removal.

3. All crane work should be scheduled and coordinated with the owner. No crane work shall be allowed over any occupied buildings.

4. At the contractor's option, pump and temporary tap work can be performed prior to delivery of the chillers.

5. Finish on the indoor piping to match the existing piping. Provide canvas jacket over the insulation and paint to match.

    a. Canvas jacket – 6 oz/sq yd, plain weave cotton fabric. Install jacket smooth and tight to the surface with a two-inch overlap at seams and joints. Embed the jacket between two coats of fire-retardant lagging adhesive, compatible with the insulation, completely encapsulating the insulation with the coating and leaving no insulation exposed.

6. BACnet router to be provided by the Contractor. The school district will be responsible for providing the data drop.

B. ALLOWANCE

1. The contractor shall have an allowance for temporary piping connections in accordance with section 01 1030.

C. PRIOR APPROVALS

a. None

D. HVAC SPECIFICATIONS

1. 23 0603 – HVAC Water Treatment

    a. New specification section.

E. HVAC DRAWINGS

1. Sheet M400

a. See revised sheet.

ATTACHMENTS:

1. Drawing M400
2. Specification section 01 1030 - Allowances
3. Specification section 23 0603 – HVAC Water Treatment

- End of Addendum -

SECTION 01 1030 - ALLOWANCES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS:

A. Provide allowances for the items listed in this specification. Allowances shall be included in the lump sum base bid.

B. The prime contractor's markup, overhead, profit, and all other costs for the allowances shall be included in the lump sum base bid. No processing fees, office supplies, handling fees, or other fees or costs are permitted.

C. Allowance amounts are only for components and scope of work not identified on the plans or for those components and scope specifically identified as an allowance.

D. Submit time sheets and other documentation to show labor time and cost for installation of allowance items.

PART 2 - ALLOWANCES

2.1 ALLOWANCE NO. 1 (TEMPORARY CHILLER):

A. In the event that the existing chiller fails prior to the new chiller being installed, the contractor shall be responsible for providing temporary taps in the existing chiller piping (including draining the system, etc.), coordinating with the delivery of the temporary chiller, hook up of the temporary chiller.

B. The owner shall be responsible for scheduling and the rental cost of the temporary chiller.

C. Contractor shall complete this work as soon as possible, but not later than 2 weeks after the notice of chiller failure by the owner.

D. Include an allowance for the sum of $10,000 for this work.

END OF SECTION 01 1030

SECTION 23 0603 - HVAC WATER TREATMENT

PART 1 - GENERAL

1.1 SCOPE OF WORK:

A. General:

1. Furnish all labor, materials, tools and equipment and perform all operations in connection with the installation of water treatment where shown on the drawings and specified hereinafter.

1.2 RELATED DOCUMENTS:

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 specification sections, apply to this section.

B. All sections of Division 23 specifications apply to this section. In addition, refer to these specification sections:

1. Section 23 0592 - System Start-Up

1.3 QUALITY ASSURANCE:

A. Manufacturers:

1. The following water treatment companies are acceptable:

a. Water Conditioning Inc. (Fingerville, SC)

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS:

A. Water quality for HVAC systems shall minimize corrosion, scale buildup, and biological growth for optimum efficiency of HVAC equipment without creating a hazard to operating personnel or the environment.

B. Closed hydronic systems, including hot water heating, chilled water, and loop water systems shall have the following water qualities:

1. pH: Maintain a value within 9.0 to 10.5.
2. "P" Alkalinity: Maintain a value within 100 to 500 ppm.
3. Boron: Maintain a value within 100 to 200 ppm.
4. Chemical Oxygen Demand: Maintain a maximum value of 100 ppm.

5. Soluble Copper: Maintain a maximum value of 0.20 ppm.
6. TDS: Maintain a maximum value of 10 ppm.
7. Ammonia: Maintain a maximum value of 20 ppm.
8. Free Caustic Alkalinity: Maintain a maximum value of 20 ppm.
9. Microbiological Limits:

    a. Total Aerobic Plate Count: Maintain a maximum value of 1000 organisms/ml.
    b. Total Anaerobic Plate Count: Maintain a maximum value of 100 organisms/ml.
    c. Nitrate Reducers: Maintain a maximum value of 100 organisms/ml.
    d. Sulfate Reducers: Maintain a maximum value of 0 organisms/ml.
    e. Iron Bacteria: Maintain a maximum value of 0 organisms/ml.

PART 3 - EXECUTION

3.1 GENERAL (CLOSED LOOP SYSTEM):

A. Flush and clean the entire closed loop system.

B. Take all precautions necessary to prevent fouling of equipment.

C. Provide all chemicals to properly clean and treat the closed loop system.

3.2 TEST REPORTS:

A. Provide written test report of make-up water system and each closed loop system after system is cleaned.

B. Provide a monthly written test report of all systems treated for twelve consecutive months.

3.3 CHEMICALS:

A. Provide all chemicals, labor and materials required for one year after acceptance of system. Provide all chemicals, labor and materials during start-up and up to acceptance.

B. Do not add chemicals until systems are flushed, cleaned, and accepted by engineer and Owner.

END OF SECTION 23 0603

MECHANICAL SYMBOL LEGEND

- PRESSURE REDUCING VALVE
- RELIEF VALVE
- CIRCUIT SETTER
- BUTTERFLY VALVE
- UNION
- FM — FLOW METER
- # — POUNDS (OR NUMBER)
- HEAT TRACED PIPE (W/CONNECTION PT.)
- ECCENTRIC REDUCER
- CONCENTRIC REDUCER
- FLANGE FITTING
- FLEXIBLE PIPE CONNECTION
- CONNECT NEW DUCT OR PIPE TO EXISTING
- TRIPLE DUTY VALVE
- GAUGE COCK
- PRESSURE GAUGE
- THERMOMETER
- CONTROL WIRING
- CONTROL WIRING
- FLOW SENSOR/SWITCH

S3950

MECHANICAL ABBREVIATIONS

ABV	ABOVE	IN	INCHES
AFF	ABOVE FINISH FLOOR	MER	MECHANICAL EQUIPMENT ROOM
BACS	BUILDING AUTOMATION CONTROL SYSTEM	NO	NORMALLY OPEN
BHP	BRAKE HORSE POWER	NC	NORMALLY CLOSED
BOP	BOTTOM OF PIPE	OC	ON CENTER
CH-1	CHILLER NO.1	ODP	OPEN DRIP PROOF
CWR	CHILLED WATER RETURN	P-1	PUMP NO.1
CWS	CHILLED WATER SUPPLY	PD	PRESSURE DROP
EFF	EFFICIENCY	PH	PHASE
ELECT	ELECTRICAL	SF	SQUARE FOOT
EXT	EXTERNAL	UNO	UNLESS NOTES OTHERWISE
HP	HORSE POWER	V-1	VALVE No.1
HT-1	HEAT TAPE NO. 1	VFD	VARIABLE FREQUENCY DRIVE
		VEL	VELOCITY
		VOLT	VOLTAGE

S3956

AIR COOLED CHILLER SCHEDULE

CHILLER #	TONS	FANS		COMPRESSOR		OUTDOOR DB T	CHILLED WATER					MAXIMUM SIZE (c)			MAX WEIGHT #	EFFICIENCY (MBH/KW)				ELECTRICAL			MANUFACTURER AND MODEL	REMARKS
							GPM		MAX PD(a)	ENT T	LVG T	L	W	H		COND. LISTED		@ AHRI		MAX MCA	MOCP	VOLT/PH		
		FLA	NO	RLA	NO		DESIGN	MIN③								EER	NPLV	EER	IPLV					
CH-1	200	2.5	10	54/69	4/2	95	564	282	24.1	54	44	282	88	98	10,000	10.1	16.8	10.2	17.1	401	500	460/3	TRANE ACSA200	①②④⑤⑥⑦⑧

(a) FEET WG
(b) GALLONS
(c) FEET
(d) NOT INCLUDING CHILLER

① .0001 SCALE FACTOR
② WIDE AMBIENT TO -20°F
③ CHILLER SHALL BE ABLE TO OPERATE AT THIS MIN. FLOW OR LESS
④ 454B REFRIGERANT
⑤ SINGLE POINT CONNECTION EXCEPT FOR HEATING CIRCUITS
⑥ CIRCUIT BREAKER DISCONNECT
⑦ MAX. SOUND POWER LEVEL 99dBA
⑧ CHILLER CONTROL DISPLAY PANEL

S3153

PUMP SCHEDULE

PUMP #	LOCATION	SERVICE	TYPE	GPM	GPM MIN(b)	HEAD FT	RPM	MIN EFF	MAX. WEIGHT #	MAX HP		ELECT VOLT/PH	MANUFACTURER AND MODEL	REMARKS
										BHP(a)	HP			
P-1A	MECH RM	CHILLED WATER	BASE MOUNTED	282	282	83	1750	77.9	400	7.6	10	460/3	BELL AND GOSSETT e-1510 2.5BB	①
P-1B	MECH RM	CHILLED WATER	BASE MOUNTED	282	282	83	1750	77.9	400	7.6	10	460/3	BELL AND GOSSETT e-1510 2.5BB	①

(a) MAX BHP AT OPERATING CONDITIONS
(b) PUMP MUST BE CAPABLE OF OPERATING AT THIS MINIMUM FLOW RATE OR LESS

① STARTER

S3350

1

HEAT TAPE SCHEDULE

HT #	SYSTEM	TYPE **	AVG. PIPE SIZE(b)	W/FT	PIPE LENGTH (a)	LENGTH MULT.	ELECT.		REMARKS
							WATTS*	VOLT/PH	
HT #1	CHILLED WATER	FP	6	5	30	1.5	225	120/1	
HT #2	CHILLED WATER	FP	6	5	30	1.5	225	120/1	

* WATTAGE IS APPROXIMATE. INSTALLING CONTRACTOR SHALL COORDINATE EXACT WATTAGE WITH ELECTRICAL CONTRACTOR.

** FP – FREEZE PROTECTION
TM – TEMPERATURE MAINTENANCE
(a) FEET (b) INCHES

4/01

S3652

Project Engineer: JEB
Drawn By: JEB
Revisions:
No. 1 Date 08-05-2024
No. ____ Date ____
No. ____ Date ____
No. ____ Date ____
No. ____ Date ____
No. ____ Date ____
No. ____ Date ____
No. ____ Date ____
No. ____ Date ____

Project: YORK COUNTY SCHOOL DISTRICT 3
ROCK HILL HIGH SCHOOL CHILLER REPLACEMENT

Sheet Title: HVAC LEGENDS, NOTES, AND SCHEDULES

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Sheet Number: M400

Date: 07.11.2024
Scale: As Noted
BGA PROJECT NUMBER: 24024
CONSTRUCTION DOCUMENTS