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Purchasing and Contracts

ADDENDUM 1

BID#: 5-97348008

DUE DATE: 11/13/2024

Contractor shall fulfill all requirements listed within the bid documents, including additions and changes noted below.

Sandy Ridge Elementary School Chiller Replacement Pre-Bid Request for Information

1) Are payment and performance bonds required?

Yes, based on NC Gen Statues if construction contract exceeds \$300,000.00

2) Alternate M1 Pricing

Carrier air cooled chiller has been added to sheet M001 for alternate M1 pricing. Contractor to provide separate pricing for Daikin base bid air cooled chiller installation and also alternate #M1 Carrier air cooled chiller. Corresponding bound specification is also attached to this email for the alternate chiller. Low ambient controls and vfd condenser fans have been deleted from the base bid Daikin chiller schedule.

End of Addendum

UNION COUNTY PUBLIC SCHOOLS TAX FORM INSTRUCTIONS

To the tax statement preparer for pay applications for Union County Public Schools:

Please find the attached form for providing sales taxes paid on materials for Union County Public Schools. It is important that you note the following:

Tax paid by contractors on rental equipment, tools or supplies that they use in the process of completing their contract is not refundable. Tax statements from contractors should indicate the **amount of tax paid on materials that become part of the structure only.** Statements should indicate the vendor's name, date of invoice, invoice number, taxable amount, and sales tax amount. The statement must be "certified" by the contractor. Additionally, be sure the county tax is allocated to the correct county. As of January 1, 2002, the county is determined by the "ship to" address; therefore, if the material was shipped to your place of business instead of the job site the county name would reflect the county where your business is located.

Subcontractors performing work should also provide sales tax statements to the general contractor. It is the general contractor's responsibility to secure from the subcontractor the tax statement. (Reference Sales and Use Tax Bulletin Section 31)

If you submit a pay application upon which no sales tax was paid, **please send a blank form indicating "none this period"**. Payment may be delayed if proper sales tax accounting is not attached.

If you have any questions regarding the attached form please contact Anna Austin w/UCPS at 704-290-1541 or Shanna McLamb at 704-290-1562.

AS OF JULY 1, 2011, THE SALES TAX DISTRIBUTION FOR UNION COUNTY IS 4.75% STATE AND 2.00% COUNTY.

Mecklenburg County has an additional ½% local sales tax. They are the only county with 7 ¼% rate of tax. For other county rates refer to Form Gen562 on the NC Department of Revenue website www.dor.state.nc.us.

PLEASE USE THE CORRECT DISTRIBUTION (NOTED ABOVE) ON ALL CONTRACTOR STATEMENTS.

STATE COUNTY SALES/USE TAX STATEMENT CERTIFICATION

Contractor: _____

Project Name: _____

Sheet #: _____

For Sales Taxes Paid from _____ to _____

Payment Application #: _____

	Invoice Number	Invoice Date	Vendor	Type of Materials	Taxable Amount of Invoice	County Name	NC Tax 4.75%	County Tax (2%/2.25%)	Transit Tax (1/2%)	Total Taxes
1)										
2)										
3)										
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23)										
24)										
25)										
Total:										

We certify that the above listing includes all materials purchased by us and incorporated into the above referenced project for the period stated, became a permanent part of the project, and that the sales tax shown has been paid. The above represents a complete listing of these sales taxes paid for the pay application number.

Sworn and subscribed before me this _____ day of _____, _____.

By: _____

Notary Public: _____

Title: _____

My Commission Expires: _____

Part 1 — General**1.01 SYSTEM DESCRIPTION**

Microprocessor-controlled, air-cooled liquid chiller for outdoor installation, utilizing scroll compressors, low sound fans.

1.02 QUALITY ASSURANCE

- A. Unit shall be rated in accordance with AHRI (Air—Conditioning, Heating and Refrigeration Institute) Standard 550/590, latest edition (U.S.A.) and all units shall be in compliance with ASHRAE (American Society of Heating, Refrigeration, and Air-Conditioning Engineers) 90.1.2019.
- B. Unit construction shall comply with ASHRAE 15 Safety Code, UL (Underwriters Laboratories) latest edition, and ASME (American Society of Mechanical Engineers) applicable codes (U.S.A. codes).
- C. The management system governing the manufacture of this product is ISO 9001:2015 certified.
- D. An operational test, in which the chiller is run under load, is performed at the factory. This test checks for proper operation of fans, as well as various controls and safeties, and a Certificate of Unit Testing, indicating successful end-of-line testing is provided with the unit.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Unit controls shall be capable of withstanding 150°F (66°C) storage temperatures in the control compartment.
- B. Unit shall be stored and handled per unit manufacturer's recommendations.

Part 2 — Products**2.01 EQUIPMENT****A. General:**

Factory-assembled, single-piece air-cooled liquid chiller. Contained within the unit cabinet shall be all factory wiring, piping, controls, refrigerant charge, and special features required prior to field start-up.

B. Materials of Construction:

- 1. The base rail is 11 ga structural quality (Grade 50, Class 2), hot-dipped, zinc-coated, minimized spangle sheet steel (with Magni-coated screws).
- 2. Cabinet shall be galvanized steel casing with a baked enamel powder or pre-painted finish.
- 3. Painted parts shall withstand 1000 hours in constant neutral salt spray under ASTM B117 conditions with a 1 mm scribe per ASTM D1654. After test, painted parts shall show no signs of wrinkling or cracking, no loss of adhesion, and no evidence of blistering, and the mean creepage shall not exceed 1/4 in. (Rating ³ 4 per ASTM D1654) on either side of the scribe line.

C. Fans:

- 1. Condenser fans shall be direct-driven, 9-blade airfoil cross-section, reinforced polymer construction, shrouded-axial type, and shall be statically and dynamically balanced with inherent corrosion resistance.
- 2. Air shall be discharged vertically upward.
- 3. Fans shall be protected by coated steel wire safety guards.
- 4. Fan blades shall have serrated edges to minimize the sound that is produced.

D. Compressor/Compressor Assembly:

- 1. Fully hermetic scroll type compressors.
- 2. Direct drive, 3500 rpm (60 Hz), protected by motor temperature sensors, suction gas cooled motor.
- 3. External vibration isolation rubber-in-shear.
- 4. Each compressor shall be equipped with crankcase heaters to minimize oil dilution.

G. Refrigeration Components:

Refrigerant circuit components shall include replaceable core filter drier, moisture-indicating sight glass, electronic expansion device, discharge service valve and liquid line service valves, and complete operating charge of both refrigerant and compressor oil.

H. Controls, Safeties, and Diagnostics:

1. Unit controls shall include the following minimum components:

- a. Microprocessor with non-volatile memory. Battery backup system shall not be accepted.
- b. Separate terminal block for power and controls.
- c. Control transformer to serve all controllers, relays, and control components.
- d. ON/OFF control switch.
- e. Replaceable solid-state controllers.
- f. Pressure sensors installed to measure suction and discharge pressures. Thermistors installed to measure evaporator entering and leaving fluid temperatures.

2. Unit controls shall include the following functions:

- a. Automatic circuit lead/lag.
- b. Hermetic scroll compressors are maintenance-free and protected by an auto-adaptive control that minimizes compressor wear.
- c. Capacity control based on leaving chilled fluid temperature and compensated by rate of change of return fluid temperature with temperature set point accuracy to 0.1°F (0.05°C).
- d. Limiting the chilled fluid temperature pull-down rate at start-up to an adjustable range of 0.2°F to 2°F (0.1 to 1.1°C) per minute to prevent excessive demand spikes at start-up.
- e. Seven-day time schedule.
- f. Leaving chilled fluid temperature reset from return fluid and outside air temperature.
- g. Chilled water pump start/stop control and primary standby sequencing to ensure equal pump run time.
- h. Chiller control for parallel chiller applications without addition of hardware modules and control panels (requires thermistors).
- i. Timed maintenance scheduling to signal maintenance activities for strainer maintenance and user-defined maintenance activities.
- j. Periodic pump start to ensure pump seals are properly maintained during off-season periods.
- k. Single step demand limit control activated by remote contact closure.
- l. Nighttime sound mode to reduce the sound of the machine per a user-defined schedule.

3. Diagnostics:

- a. The control panel shall include, as standard, a display:
 - 1) Color touch screen display with stylus.
 - 2) Display shall allow a user to navigate through menus, select desired options, and modify data.
- b. Features of the display shall include:
 - 1) Multiple connection ports for USB, Ethernet, or BACnet™¹ IP
 - 2) Automatic reporting of alarms over email.
 - 3) Ability to graphically plot trends of system performance and conditions over time.

¹Third-party trademarks and logos are property of their respective owners.

- 4) Graphical summary display of current chiller operation and water conditions.
- 5) Display shall allow access to configuration, maintenance, service, set point, time schedules, alarm history, and status data.
- 6) Three levels of password protection against unauthorized access to configuration and maintenance information, and display set up parameters.
- 7) Full compatibility with the Carrier Comfort Network® (CCN) system to provide email alarm notification and to provide network capability to fully monitor and control chiller.
- 8) Display shall be capable of displaying the last 50 alarms, with clear full text description and time and date stamp, and will store a snapshot of operating conditions before and after the 10 most recent alarms.
- 9) Display run hours and number of starts for machine and individual compressors.
- 10) The control system shall allow software upgrade without the need for new hardware modules.

4. Safeties:

- a. Unit shall be equipped with thermistors and all necessary components in conjunction with the control system to provide the unit with the following protections:
 - 1) Reverse rotation.
 - 2) Low chilled fluid temperature.
 - 3) Motor overtemperature.
 - 4) High pressure.
 - 5) Electrical overload.
 - 6) Thermal overload.
 - 7) Loss of refrigerant charge.
- b. Condenser fan motors shall have internal overcurrent protection.

I. Operating Characteristics:

1. Standard tier units, without modification, shall be capable of starting and running at outdoor ambient temperatures from 32°F (0°C) to 120°F (48.9°C).
2. Unit shall be capable of starting up with 95°F (35°C) entering fluid temperature to the evaporator.
3. After power restoration, and with the Capacity Recovery™ feature enabled, unit shall be capable of full capacity recovery in less than 4 minutes provided the required chilled water flow is available and no safety/control manual reset items or alarms are in effect.

J. Motors:

Condenser fan motors shall be totally enclosed, air over, 3-phase type with permanently lubricated bearings and Class F insulation. Fans shall be 8-pole for fixed speed units and 6-pole for variable speed units.

K. Electrical Requirements:

1. Unit primary electrical power supply shall enter the unit at a single location (all chiller voltage/ size combinations shall have the ability to accommodate 2 power supplies to meet job specific requirements).
2. Primary electrical power supply shall be rated to operate up to 125.6°F (52°C) ambient temperature for all models.
3. Unit shall operate on 3-phase power at the voltage shown in the equipment schedule.
4. Control points shall be accessed through terminal block.
5. Unit shall be shipped with factory control and power wiring installed.

6. Unit shall have a standard SCCR (short circuit current rating) value of 10 kA for all voltages.

L. Chilled Water Circuit:

1. Chilled water circuit shall be rated for 300 psig (2068 kPa).
2. Thermal dispersion proof of flow switch shall be factory installed and wired.

M. Special Features Included On This Spec.

Certain standard features are not applicable when the features designated by * are specified. For assistance in amending the specifications, contact your Carrier representative.

1. Unit-Mounted Non-Fused Disconnect:

Unit shall be supplied with factory-installed, non-fused electrical disconnect for main power supply. This option is included with the high SCCR option.

2. Condenser Coil Materials:

a. Aluminum fin/copper tube coils:

Coil shall be constructed of seamless copper tubes mechanically bonded to aluminum fins. Fins shall have wavy enhancements.

3. Energy Management Control Module:

A factory or field-installed module shall provide the following energy management capabilities: 4 to 20 mA signals for leaving fluid temperature reset, cooling set point reset, or demand limit control; 2-step demand limit control (from 0% to 100%) activated by a remote contact closure; and discrete input for "Ice Done" indication for ice storage system interface.

4. Condenser Coil Trim Panels:

Unit shall be equipped with factory or field-installed coil covers, which provide protection for the coil headers.

5. Security Grilles:

Unit shall be equipped with factory or field-installed wire grilles to provide additional protection from damage. Factory-installed security grilles automatically include factory-installed coil trim panels.

6. Security Grilles (Sides) and Hail Guard (Ends):

Unit shall be equipped with a factory or field-installed option consisting of louvered panels on the ends of the machine and security grilles on the sides of the machine. These coverings shall firmly fasten to the machine frame and provide coverage from the top to the bottom of the unit. This option also provides the functionality of a wind baffle.

7. Suction Line Insulation:

Insulation shall be tubular closed-cell insulation. This option shall be required on applications with leaving fluid temperatures below 30°F (-1.1°C) and recommended for areas with high dewpoints, where condensation may be a concern.

8. Direct Expansion Shell-and-Tube Evaporator:

Shall provide the chiller with a shell-and-tube evaporator in lieu of the standard brazed plate evaporator. CRN certified direct expansion shell-and-tube evaporators are also available, in which case, shall provide minor evaporator modifications to meet Canadian code.

9. Pressure Relief Valve:

Unit shall be provided with reseating-type pressure relief valves on the suction and discharge lines. The use of these valves meets Chicago code requirements on all unit sizes. Pressure relief valves are automatically provided for unit sizes 152-252 which employ the direct expansion shell-and-tube evaporator.

10. GFI Convenience Outlet:

Shall be factory or field-installed and mounted with easily accessible 115-v female receptacle and shall include a 4-amp GFI receptacle. Not available on 380-v units.

ITEM	QTY	UNIT	DESCRIPTION	AMOUNT
1. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
2. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
3. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
4. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
5. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
6. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
7. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
8. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
9. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
10. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00

CHILLER SCHEDULE - ALTERNATE #1

1. CHILLER REPLACEMENT - 1000.00

2. CHILLER REPLACEMENT - 1000.00

3. CHILLER REPLACEMENT - 1000.00

4. CHILLER REPLACEMENT - 1000.00

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CHILLER SCHEDULE

1. CHILLER REPLACEMENT - 1000.00

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VENTILATION CALCULATIONS

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10. VENTILATION CALCULATIONS - 1000.00

ITEM	QTY	UNIT	DESCRIPTION	AMOUNT
1. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
2. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
3. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
4. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
5. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
6. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
7. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
8. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
9. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00
10. CHILLER REPLACEMENT	1	EA	CHILLER REPLACEMENT	1000.00

208 NORTH CAROLINA

ENERGY CONSERVATION CODE

1. ENERGY CONSERVATION CODE - 1000.00

2. ENERGY CONSERVATION CODE - 1000.00

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MECHANICAL GENERAL NOTES

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MECHANICAL DEMOLITION NOTES

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TESTING, ADJUSTING AND BALANCING

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EQUIPMENT MANUFACTURER'S LISTING

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