INVITATION TO BID

OFFICIAL NOTICE

Sealed bids will be received by the City Clerk, 421 Michigan Street, Sturgeon Bay, WI 54235, until 12:00 P.M. local time on Monday, June 13th, 2022. All bids will be publicly opened at 1:00 P.M. on Monday, June 13th, 2022 at City Hall, 421 Michigan Street, Sturgeon Bay and read aloud for:

New Air Conditioning Chiller
at
City Hall
421 Michigan Street
Sturgeon Bay, WI 54235

All bidders of materials, services and equipment will be required to post Performance Security as described in Instructions to Bidders.

The City of Sturgeon Bay reserves the right to reject any or all bids, parts of any or all bids, or to waive technical errors or omissions in bids.

An “Interested Bidders” meeting will take place at 8:00 a.m. on Monday, June 6th at:

City Hall
421 Michigan Street
Sturgeon Bay, WI 54235

Any interested bidders are encouraged to attend, attendance is not required for bidding.

Bid documents may be printed from the City’s website or a copy may be picked up from the Municipal Services building at 835 N. 14th Ave, Sturgeon Bay, WI 54235.

Mike Barker
Director of Municipal Services

DATE: 25 May 2022
Enclosed are bid documents which may be of interest to your company.

Please note the scheduled date and time for the public bid opening.

This bid document must be returned intact (the same order as received). Failure to do so may invalidate your proposal.

All bids shall be submitted in an opaque, sealed envelope addressed to:

    City Clerk  
    421 Michigan Street  
    Sturgeon Bay, WI 54235

Prior to the time and date set forth for the bid opening as indicated in the Notice to Bidders. Each bid, so addressed, shall bear on the face of the envelope, the name of the bidder, and a statement that it is a “SEALED BID A/C CHILLER”, to be opened for the contract consideration, at the date and hour set forth in the Invitation to Bid.

Any questions concerning the bid document or the specification may be directed to the Director of Municipal Services at: (920) 746-6922.

Oral or written comments received from any other person, other than the appropriate persons, will not be considered, and may invalidate your proposal.

Respectfully,

Mike Barker  
Director of Municipal Services
NOTE: By submitting a bid, the bidder warrants that he has familiarized himself with all requirements of the Contract Documents.

Definitions:

The following definitions shall apply wherever they appear in the contract documents.

City – City of Sturgeon Bay

Owner – City of Sturgeon Bay

Bid – The offer of the bidder

Bidder – Any individual, corporation or partnership who submits a bid.

Contract Documents – Invitation to Bid, Instructions, General Conditions, Specifications, Drawings, Addendums, Proposal (in so far as it is not inconsistent with other contract documents).

1. Bids – General: Instruction bids shall be made in accordance with the instructions. Failure to execute proposals as required may, in the discretion of the City, be cause for rejection of the bid.

2. Forms: Bids shall be submitted on the forms provided by the City. Each bid must be submitted bound with the other contract documents.

3. Blanks / Corrections: All blank spaces on any contract documents shall be filled in with typewritten figures or ink. Any erasures or corrections shall be dated and initialed by the bidder.

4. Submission: Bids shall be submitted in an opaque sealed envelope to the City Clerk, 421 Michigan Street, Sturgeon Bay, WI 54235, prior to the time and date set forth for bid opening in the Notice to Bidders. Each bid shall be addressed to the City Clerk and shall bear on the face of the envelope the name of the bidder, and a statement that it is a sealed bid to be opened for the contract at the date and hour as set forth in the invitation to bid.

5. Execution: Proposals shall be signed by the bidder. If the bidder is a corporation, the proposal shall bear the name of the corporation, signed by an officer authorized to bind the corporation, and sealed with the corporate seal.

6. Withdrawal: Bids may be withdrawn previous to the time of bid opening by written request; however, no bid shall be withdrawn within the thirty (30) day period after the time set for bid opening. Bidders withdrawing their bids prior to the time and date set for bid opening may still submit another bid if done in accord with these instructions.

7. Words and Figures: Where amounts are given in both words and figures, the words will govern.
8. **Unit Prices:** When unit prices are called for, bids shall include all unit cost items and alternatives shown on the proposal. When an error is made in extending total prices, the unit price shall govern.

9. **Net Price:** Bid prices shall be net, including therein transportation and handling charge F.O.B. City of Sturgeon Bay, and shall further include all charges whatsoever sort for labor and materials contained in the work or materials designated in the specifications and proposal.

10. **Alternate Equipment or Materials:**

    a. Bids shall be evaluated and considered on equipment and/or material complying substantially with the contract specifications. If any bidder deviates from the contract specifications or provides a substitute for any required equipment and/or material listed in the contract specifications, that bidder shall list such deviations and/or substitutions, including technical data when applicable, in a letter attached to the bid or on a form that may be provided by the City with the bid documents.

    b. Brand names which may be mentioned in the contract specifications are used only as a reference to the type and quality of equipment and/or materials desired. However, any deviation from or substitution in brand name stated in the contract specifications shall be listed as required.

    c. The City reserves the right to determine whether any deviations and substitutions listed by the bidder are within the intent of the specifications and will reasonably meet the service requirements of the using department.

    d. A bidder’s failure to list any deviations from or substitutions in the specifications as required under paragraph (a) of this section may result in the rejection of the bid.

11. **Descriptive Literature: Equipment or Materials:** Each bidder bidding on contracts to furnish equipment or materials shall furnish with his proposal two (2) copies of descriptive literature on the supplies or equipment being bid and manufactures specifications in complete detail. Said brochure and manufacturer’s specifications shall be in sufficient detail to permit proper evaluation of the bid.

12. **City’s Right to Accept or Reject:** The City of Sturgeon Bay reserves the right to accept any bid, any part of a bid, or any combination of two (2) or more bids which may be deemed to be in the best interest of the City. The City further reserves the right to reject any or all bids.

13. **Awarding of Contract:** The lowest responsible bidder based on criteria as set forth in these documents and in accordance with applicable City ordinances and State statutes will be awarded the Contract.

14. **Bid Performance Security:** Each proposal shall be accompanied by a certified check, or bank draft, payable to the City of Sturgeon Bay, or satisfactory bid bond, in the amount of 5% of the gross bid as a guarantee that if the bid is accepted as the successful bid, such successful bidder will execute and file the proposed contract and performance bond within ten (10) days after notice of award of contract. The certified check will be returned to all unsuccessful bidders after awarding the contract to the lowest responsible bidder. The certified check of the lowest
responsible bidder will be returned upon delivery of the equipment. Failure to submit the performance security may result in rejection of bid.

15. **Lowest Responsible Bidder:** The lowest responsible bidder for the purchase of equipment shall be the lowest priced bid that best meets the needs of the City as described in the specifications. Some deviation from the specifications is expected and will be evaluated as part of the owner’s review and determination of the “lowest responsible bid”.
New Air Conditioning Chiller
at
City Hall
421 Michigan Street
Sturgeon Bay, WI 54235

The undersigned proposes to complete job as listed below. Please call Mike Barker at 920-746-6922 to have questions answered

SECTION 1: GENERAL

1.01 SUMMARY
   A. Section includes design, performance criteria, refrigerants, controls, and installation requirements for air-cooled scroll compressor chillers.

1.02 REFERENCES
   A. Comply with applicable Standards/Codes of AHRI 550/590, ANSI/ASHRAE 15, ETL, cETL, NEC, and OSHA as adopted by the State.
   B. Units shall meet the efficiency standards of the current version of ASHRAE Standard 90.1, and FEMP standard 2012.

1.03 SUBMITTALS
   A. Submit shop drawings and product data in accordance with the specifications.
   B. Submittals shall include the following:
      1. Dimensioned plan and elevation view drawings, required clearances, and location of all field connections
      2. Summary of all auxiliary utility requirements such as electricity, water, etc. Summary shall indicate quality and quantity of each required utility.
      3. Single line schematic drawing of the field power hookup requirements, indicating all items that are furnished.
      4. Schematic diagram of control system indicating points for field interface/connection.
      5. Diagram shall fully delineate field and factory wiring.
      6. Installation and operating manuals.

1.04 QUALITY ASSURANCE
   A. Qualifications: Equipment manufacturer must specialize in the manufacture of the products specified and have five years experience with the type of equipment and refrigerant offered.
   B. Regulatory Requirements: Comply with the codes and standards specified.
   C. Chiller manufacturer plant must be ISO Registered.

1.05 DELIVERY AND HANDLING
A. Chiller shall be delivered to the job site completely assembled and charged with refrigerant and oil by the manufacturer.
B. Comply with the manufacturer’s instructions for rigging and handling equipment.

1.06 WARRANTY
A. Standard Warranty (Domestic): The refrigeration equipment manufacturer’s guarantee shall be for a period of one year from date of equipment start-up but not more than 18 months from shipment. The guarantee shall provide for repair or replacement due to failure by material and workmanship that prove defective within the above period, excluding refrigerant.
B. 1st Year Labor Warranty: Entire unit
C. Extended Compressor Warranty: Four (4) years extended compressor warranty, parts only.
D. Extended Unit Warranty: None.
E. Refrigerant Warranty: One (1) year R410A refrigerant.
F. Delay Warranty Start: None.

1.07 MAINTENANCE
A. Maintenance of the chillers shall be the responsibility of the owner and performed in accordance with the manufacturer’s instructions.

SECTION 2: PRODUCTS

1.08 ACCEPTABLE MANUFACTURERS
A. Any reputable manufacturer such as Daikin, Carrier, etc...

1.09 UNIT DESCRIPTION
A. Provide and install as shown on the plans factory-assembled, factory-charged air-cooled scroll compressor packaged chillers in the quantity specified. Each chiller shall consist of hermetic tandem scroll compressor sets (total four compressors), brazed plate evaporator, air-cooled condenser section, microprocessor-based control system and all components necessary for controlled unit operation.
B. Chiller shall be functionally tested at the factory to ensure trouble free field operation
C. Chiller shall be rated at 80 tons cooling minimum.

1.010 DESIGN REQUIREMENTS
A. Flow Range: The chiller shall have the ability to support variable flow range down to 40% of nominal design (based on AHRI conditions).
B. Operating Range: The chiller shall have the ability to control leaving chilled fluid temperature from 15F to 65F.
C. General: Provide a complete scroll compressor packaged chiller as specified herein and as shown on the drawings. The unit shall be in accordance with the standards referenced in section 1.02 and any local codes in effect.

D. Performance: Refer to the schedule of performance on the drawings. The chiller shall be capable of stable operation to a minimum percentage of full load (without hot gas bypass) of 25%. Performance shall be in accordance with AHRI Standard 550/590.

1.011 CHILLER COMPONENTS

A. Compressor

1. The compressors shall be sealed hermetic, scroll type with crankcase oil heater and suction strainer. The compressor motor shall be refrigerant gas cooled, high torque, hermetic induction type, two-pole, with inherent thermal protection on all three phases and shall be mounted on RIS vibration isolator pads. The compressors shall be equipped with an internal module providing compressor protection and communication capability.

B. Evaporator

1. The evaporator shall be a compact, high efficiency, dual circuit, brazed plate-to-plate type heat exchanger consisting of parallel stainless steel plates. Vent and drain connections shall be provided in the inlet and outlet chilled water piping by the installing contractor.
2. The evaporator shall be protected with an external, electric resistance heater plate. The evaporator and suction piping to the compressors shall be insulated with 3/4” (19 mm) thick CFC and HCFC-free closed-cell flexible elastomeric foam insulation material with 100% adhesive coverage. The insulation shall have an additional outer protective layer of 3mm thick PE embossed film to provide superior damage resistance. Insulation without the protective outer film shall not be acceptable. UV resistance level shall meet or exceed a rating of ‘Good’ in accordance with the UNI ISO 4892 - 2/94 testing method. This combination of a heater plate and insulation shall provide freeze protection down to -20°F (-29°C) ambient air temperature.
3. The water-side maximum design pressure shall be rated at a minimum of 435 psig (3000 kPa). Evaporators shall be designed and constructed according to, and listed by Underwriters Laboratories (UL).

C. Condenser

1. Condenser fans shall be propeller type arranged for vertical air discharge and individually driven by direct-drive fan motors. The fans shall be equipped with a heavy-gauge vinyl-coated fan guard. Fan motors shall be TEAO type with permanently lubricated ball bearings, inherent overload protection, three-phase, direct-drive, 1140 rpm. Each fan section shall be partitioned to avoid cross circulation.
2. Coil shall be microchannel design and shall have a series of flat tubes containing multiple, parallel flow microchannels layered between the refrigerant manifolds. Tubes shall be 9153 aluminum alloy. Tubes made of 3102 alloy or other alloys of lower corrosion resistance shall not be accepted. Coils shall consist of a two-pass arrangement. Each condenser coil shall be factory leak tested with high-pressure air under water. Coils shall withstand 1000+ hour acidified synthetic sea water fog (SWAAT) test (ASTM G85-02) at 120°F (49°C) with 0% fin loss and develop no leaks.

D. Refrigerant Circuit
   1. Each of the two refrigerant circuits shall include a replaceable-core refrigerant filter-drier, sight glass with moisture indicator, liquid line solenoid valve (no exceptions), expansion valve, and insulated suction line.

E. Construction
   1. Unit formed sheet metal components shall be painted using a corrosion resistant paint system, for aesthetics and long-term durability. Paint system will include a base primer with a high-quality polyester resin topcoat. Painted galvanized parts shall be G60 or greater and finished, unabraded panel surfaces shall be capable to be exposed to an ASTM B117 salt spray environment and exhibit no visible red rust at a minimum of 3,000 hours exposure. Finished, abraded surfaces shall be tested per ASTM D1654, having a mean scribe creepage not exceeding 1/16” at 1,000 hours minimum exposure to an ASTM B117 salt spray environment.
   2. Upper section of unit shall have protective and decorative louvers covering the coils and unit end; base section of unit shall have protective, 12 GA, PVC-coated, wire grille guards and have painted steel wraps enclosing the coil end sections and piping.

F. Control System
   1. A centrally located weatherproof control panel shall contain the field power connection points, control interlock terminals, and control system. Box shall be designed in accordance with NEMA 3R rating. Power and starting components shall include factory circuit breaker for fan motors and control circuit, individual contactors for each fan motor, solid-state compressor three-phase motor overload protection, inherent fan motor overload protection and two power blocks (one per circuit) for connection to remote, contractor supplied disconnect switches. Hinged access doors shall be lockable. Barrier panels or separate enclosures are required to protect against accidental contact with line voltage when accessing the control system.
   2. Shall include optional single-point connection to a non-fused disconnect switch with through-the-door handle and compressor circuit breakers.

G. Unit Controller
1. An advanced DDC microprocessor unit controller with a 5-line by 22-character liquid crystal display provides the operating and protection functions. The controller shall take preemptive limiting action in case of high discharge pressure or low evaporator pressure. The controller shall contain the following features as a minimum:

2. The unit shall be protected in two ways: (1) by alarms that shut the unit down and require manual reset to restore unit operation and (2) by limit alarms that reduce unit operation in response to some out-of-limit condition. Shut down alarms shall activate an alarm signal.

3. Shutdown Alarms
   a. No evaporator water flow (auto-restart)
   b. Sensor failures
   c. Low evaporator pressure
   d. Evaporator freeze protection
   e. High condenser pressure
   f. Outside ambient temperature (auto-restart)
   g. Motor protection system
   h. Phase voltage protection (Optional)

4. Limit Alarms
   a. Condenser pressure stage down, unloads unit at high discharge pressures.
   b. Low ambient lockout, shuts off unit at low ambient temperatures.
   c. Low evaporator pressure hold, holds stage #1 until pressure rises.
   d. Low evaporator pressure unload, shuts off one compressor.

5. Unit Enable Section
   a. Enables unit operation from either local keypad, digital input, or BAS

6. Unit Mode Selection
   a. Selects standard cooling, ice, glycol, or test operation mode

7. Analog Inputs:
   a. Reset of leaving water temperature, 4-20 mA
   b. Current Limit

8. Digital Inputs
   a. Unit off switch
   b. Remote start/stop
   c. Flow switch
   d. Ice mode switch, converts operation and setpoints for ice production
   e. Motor protection

9. Digital Outputs
   a. Shutdown alarm; field wired, activates on an alarm condition, off when alarm is cleared
   b. Evaporator pump; field wired, starts pump when unit is set to start

10. Condenser fan control - The unit controller shall provide control of condenser fans based on compressor discharge pressure.

11. Building Automation System (BAS) Interface
a. Factory mounted DDC controller(s) shall support operation on a BACnet®, Modbus® or LONMARK® network via one of the data link / physical layers listed below as specified by the successful Building Automation System (BAS) supplier.
b. BACnet MS/TP master (Clause 9)
c. BACnet IP, (Annex J)
d. BACnet ISO 8802-3, (Ethernet)
e. LONMARK FTT-10A. The unit controller shall be LONMARK® certified.
f. The information communicated between the BAS and the factory mounted unit controllers shall include the reading and writing of data to allow unit monitoring, control and alarm notification as specified in the unit sequence of operation and the unit points list.
g. For chillers communicating over a LONMARK network, the corresponding LONMARK eXternal Interface File (XIF) shall be provided with the chiller submittal data.
h. All communication from the chiller unit controller as specified in the points list shall be via standard BACnet objects. Proprietary BACnet objects shall not be allowed. BACnet communications shall conform to the BACnet protocol (ANSI/ASHRAE135-2001). A BACnet Protocol Implementation Conformance Statement (PICS) shall be provided along with the unit submittal.

1.012 OPTIONS AND ACCESSORIES

A. The following options are to be included:

1. Low Ambient Control: Fan VFD allows unit operation from 32°F down to -10°F (-23.3 C).
2. High Ambient Control Panel for operation from 105°F up to 125°F ambient temperatures
3. The following accessories, if selected, are to be included:
   a. Spring vibration isolators for field installation
   b. Factory-mounted thermal dispersion type flow switch
   c. 115V GFI convenience outlet

SECTION 3: EXECUTION

1.013 INSTALLATION

A. Install in strict accordance with manufacturer’s requirements, shop drawings, and contract documents.
B. Adjust and level chiller in alignment on supports.
C. Coordinate electrical installation with electrical contractor.
D. Coordinate controls with control contractor.
E. Install a field-supplied or optional manufacturer-supplied strainer in the chilled water return line at the evaporator inlet that meets manufacturer perforation size specifications.
1.014 START-UP
   A. Provide testing and starting of machine, and instruct the Owner in its proper operation and maintenance.
FORM OF PROPOSAL

New Air Conditioning Chiller
at
City Hall
421 Michigan Street
Sturgeon Bay, WI 54235

The undersigned proposes to complete job as listed below. Please call Mike Barker at 920-746-6922 to have questions answered.

Scope of Work:

- Provide and install unit.

Quote must include:
- Supplying all required materials
- Disposal of all trash from worksite
- Any required permits
- Installation of unit in accordance with manufacturer’s instructions so not to interfere with warranty.
- Removal and appropriate disposal of replaced unit
- Any and all electrical and plumbing work.
- Any and all required crane rental.

Make/Model of quoted unit: ________________________________

Price of complete job: $ ____________________

Expected start date: ____________________

Submitted by: ____________________

Print Company Name

Address: ____________________ City, State: ____________________

Phone: ____________________ Date: ____________________

By: ____________________ Title: ____________________

Printed Name

Signature