

MIDDLETON ASSOCIATES INCORPORATED
1702 W. COLLEGE AVE., SUITE E
NORMAL, IL 61761-2793
PHONE 309/452-1271 FAX 309/454-8049

SPECIFICATIONS FOR LABOR AND MATERIALS

FOR

CHILLER #2 REPLACEMENT
NORMAL COMMUNITY WEST HIGH SCHOOL
501 N. PARKSIDE RD., NORMAL, IL 61761

FOR

MCLEAN COUNTY UNIT DISTRICT NO. 5
1809 HOVEY AVENUE
NORMAL, ILLINOIS 61761-4339

PROJECT NUMBER: 25352320

ISSUE DATE: TUESDAY, SEPTEMBER 29, 2020

PRE-BID MEETING: THURSDAY, OCTOBER 8, 2020 AT 10:00 A.M.
PREVAILING TIME
Meet at the Chiller, Main entrance, East side

BID DATE: WEDNESDAY, OCTOBER 21, 2020 – 10:00 A.M.
PREVAILING TIME

BID DELIVERED TO: Unit 5 Maintenance Warehouse
1999 Eagle Road
Normal, IL 61761

SPECIFICATION BOOKLET NO. _____



Expiration Date
11/30/22

A handwritten signature in black ink, appearing to read "Randall E. Middleton", written over a horizontal line.

[Seal and Signature]

DIVISION 0 – BIDDING & CONTRACT REQUIREMENTS

Section 00020 – Table of Contents

PROJECT TITLE: McLean County Unit District No. 5
Normal Community West High School Chiller #2 Replacement
510 N. Parkside Rd., Normal, IL
A/E Project No.: 25352320

FOR: McLean County Unit District No. 5
District Office: 1809 Hovey Ave., Normal, IL 61761-4339
Maintenance Warehouse: 1999 Eagle Rd., Normal, IL 61761

SUPERINTENDENT OF SCHOOLS: Dr. Kristen Weikle

ARCHITECT/ENGINEER: Middleton Associates, Incorporated
1702 W. College Avenue, Suite E
Normal, IL 61761-2793
middleton@middletonassociates.net

ISSUE DATE: September 29, 2020

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END 00020

DIVISION 0 – BIDDING & CONTRACT REQUIREMENTS
Section 00030 - Invitation for Bids

Sealed proposals will be received by: McLean County Unit District No. 5

For Project: Normal Community West High School Chiller #2 Replacement
A/E Project No. 25352320

Time of Bid Submission: **Wednesday, October 21, 2020 – 10:00 a.m. Prevailing Time.** Public Opening following due time.

Location of Bid Submission: McLean County Unit District No. 5 Warehouse, Attn: Joe Adelman, 1999 Eagle Rd., Normal, Illinois 61761.

Proposals shall be delivered to the above location prior to 10:00 a.m. Proposals shall be clearly identified on the outside of the envelope as "Sealed Proposal" and list the project title as shown above. Proposals will be opened and publicly read following the due time.

The bids may be sent electronically prior to Wednesday, October 21, 2020, 10:00 am prevailing time to Joe Adelman, Director of Operations, adelmanj@myunit5.org using a scanned Proposal Form Submitted with Live Signature Pages 1 and 2. Include a copy of the Bid Form showing the 5% Bid Bond and Signature. Include Specification Section 00 40 10-1 Voluntary Alternate & Substitution Form if you bid a Substitution or include a comment to that "No Voluntary Substitution is Proposed". Electronically received Bids will be printed and read after Wednesday, October 21, 2020, 10:00 am prevailing time. Contractors are reminded they may come to the Warehouse and leave a bid in person. This is in compliance with Executive Order No.13 Section 9 from the Governor of Illinois: Include electronic bid to CC: Marty Hickman, Business Manager, hickmanms@myunit5.org

Terms of the proposal:

- Bid Security is required, 5% Bid Bond or Certified Check.
- Owner protective bonds are required in the amount of 100% of the Contract value after award.
- Illinois Prevailing Wage Act 820 ILCS 130/.01 *et seq.* applies to this job.
- Current Revised Statutes Illinois Criminal Code 720 ILCS; 30 ILCS; and 5 ILCS 385/1 applies to this job.
- The Board of Education has the right to reject or accept the bids submitted or to waive any bidding irregularities.

Interested parties may check out Plans and Specifications at the Architect's office, Middleton Associates Inc., Normal, IL (309/452-1271) or at middletonassociates.net. Scroll down and click on "Contractors". Refundable deposit for one printed set is \$25.00.

END 00030

DIVISION 00 - PROCUREMENT REQUIREMENTS

Section 00 40 00 - Proposal Form

Bid forms may be copied, original signatures are required

PROJECT TITLE: CHILLER #2 REPLACEMENT
NORMAL COMMUNITY WEST HIGH SCHOOL

BID DATE: Wednesday, October 21, 2020 TIME: 10:00 a.m. Prevailing Time

LOCATION OF BID: MAINTENANCE OFFICE
McLean County Unit District No. 5
1999 Eagle Rd.
Normal, IL 61761

NAME OF FIRM _____

PROPOSAL FOR: All work single contract

A/E PROJECT NO. 25352320

THE BID ACKNOWLEDGES THE FOLLOWING ADDENDA (as applicable):

Failure to acknowledge may cause bid rejection

NO. 1 _____, NO. 2 _____, NO. 3 _____, NO. 4 _____, NO. 5 _____

EACH BID SHALL INCLUDE:

- A. The bid forms and certifications completed and signed, (*this form may be copied.*)
- B. Bid Security (*standard industry forms may be employed*)

BASE BID – THE BIDDER AGREES TO PERFORM ALL WORK, INCLUSIVE OF ALL TRADES AND INCLUSIVE OF ALL MATERIALS TO PROVIDE NEW CHILLER, EVAPORATOR, & CONDENSER WITH RELATED PIPING MODIFICATIONS AND ADD \$10,000.00 TO THE BASE BID AS AN ALLOWANCE FOR UNFORESEEN CONDITIONS FOR THE SUM OF:

_____ Dollars \$ _____
written amount

ALTERNATES There are no alternates.

VOLUNTARY ALTERNATES OR SUBSTITUTIONS

Did you include voluntary alternates or product substitution offers on form provided.

YES _____ **NO** _____

SEE PRODUCT SUBSTITUTION OR VOLUNTARY ALTERNATES FORM, ATTACH IF ANY ARE OFFERED. Voluntary alternates or substitutions may or may not be considered in making the award and are not required.

THE BIDDER AGREES TO:

1. Hold this bid open for thirty (30) calendar days after bid opening date.
2. Enter into and execute a contract with McLean County Unit District No. 5 if awarded this contract.
3. Comply with the contract and bidding documents with respect to bid security, all bonds, insurance, work requirements, and schedule.
4. Comply with the Contract Documents with respect to Contract Time as specified in Paragraph 8, Commencement and Completion of Construction.

THE BIDDER MAKES THE FOLLOWING REPRESENTATIONS AND CERTIFICATIONS:

- A. A surety company has agreed to issue payment and performance bonds to fulfill the contracting requirements.
- B. The Bidder is not barred from contracting with any unit of state or local government as a result of violating the bid rigging or bid rotating provisions contained in 720 ILCS 5/33E.
- C. The Bidder is not barred from contracting with the State of Illinois as a result of a bribery conviction per 30 ILCS 505/10.2.
- D. All on site labor and wage compensation provided by this contractor or his subcontractors will comply with the Illinois Prevailing Wage Act (820 ILCS 130E).
- E. This proposal is made without any connection with any person making another bid for the same contract, that the bid is in all respects fair and without collusion or fraud, that no member of the McLean County Unit District No. 5 School Board, other officer or any person in the employment of McLean County Unit District No. 5 is directly or indirectly interested in the bid or any portion of the profit there from, except as allowed by the Illinois Law or the Illinois School Code.
- F. I agree to provide a drug-free workplace as required by the Illinois Drug-free Workplace Act.
- H. I do hereby certify that I am either the bidder or duly authorized agent of the referenced bidder, and I am authorized to execute the certifications hereon.
- G. I certify that by submission of this proposal the bidder confirms that he is familiar with the site, existing conditions, the Bid Documents, requirements and the project schedule.

CONTRACTOR:

Firm Name: _____

Address: _____

Telephone: _____

FAX: _____

Email: _____

Date: _____

SIGNATURE:

Title: _____

For Corporations Only

SUBCONTRACTOR: If applicable

END 00 40 00

DIVISION 00 - PROCUREMENT REQUIREMENTS
Section 00 40 10 - Voluntary Alternate and Substitution Form

The Bidder should include this form with the Bid Forms if a material substitution is offered at that time.

The Base Bid and Alternate Bids include only those products specified in the bidding documents. Following is a list of substitute products which bidder proposes to furnish on this project, with the difference in price being added to or deducted from the Base Bid or Alternate Bids.

Bidder understands that acceptance of any proposed substitution is at Owner's option. Approval or rejection of any substitutions listed below will be subject to review after Contract award. Hold open for thirty-five (35) days from Bid Date.

SUBSTITUTIONS

MANUFACTURER'S NAME AND PRODUCT	ADD OR (DEDUCT)
_____	_____
_____	_____
_____	_____
_____	_____

**VOLUNTARY ALTERNATE
DESCRIPTION**

ADD OR (DEDUCT)

_____	_____
_____	_____
_____	_____
_____	_____

EVALUATION. Contract award will be made in accord with Instructions To Bidders. Only the lowest responsible bidder's Proposed Product Substitution Voluntary Alternates Form will be evaluated.

Attach with herewith or submit on day of bid a general description of the proposed option being offered.

Provide detailed information promptly upon request.

END 00 40 10

OWNER - CONTRACTOR AGREEMENT

To be filled out upon award

Between:

The Owner: McLean County Unit District No. 5
1809 W. Hovey
Normal, Illinois 61761

And the Contractor: _____

For the Project:

**CHILLER #2 REPLACEMENT
NORMAL COMMUNITY WEST HIGH SCHOOL
FOR McLEAN COUNTY UNIT DISTRICT NO. 5**

The Owner and Contractor agree to enter into a contract in accordance with the terms and conditions of the Documents A/E Project Number 25352320 and the Contractor's Bid Proposal dated October 21, 2020 which become the Contract for completion of the project as follows:

Base Bid Completion Date: Prior to January 15, 2021

Additional Terms & Conditions: None (or as applicable)

Addenda: #1 _____ #2 _____ #3 _____ #4 _____ (list as applicable)

Contract Amount: (to be listed as appropriate)

Base Bid Proposal	\$ _____
Alternate Bids as awarded to be listed	\$ _____
Total Contract Amount	\$ _____

(Written) _____ Dollars

Date of Agreement: October 28, 2020

Signatures:

Owner: McLean County Unit District No. 5

Contractor:

Contractor's Seal
(Corporation Only)

This Agreement must be signed and returned with the Contractor's Performance Labor and Materials Payment Bonds within fifteen (15) days of notice or the Contractor will be considered in default on acceptance of the award.

END 00 41 13

DIVISION 23 – HEATING, AIR CONDITIONING, & VENTILATION
Section 23 05 08 – Project Summary

CHILLER #2 REPLACEMENT
NORMAL COMMUNITY WEST HIGH SCHOOL
501 N. PARKSIDE RD., NORMAL, IL 61761

FOR

MCLEAN COUNTY UNIT DISTRICT NO. 5
1809 W. HOVEY AVENUE
NORMAL, ILLINOIS 61761-4339

A/E PROJECT NUMBER: 25352320

ISSUE DATE: Tuesday, September 29, 2020

PRE-BID MEETING: Thursday, October 8, 2020, 10:00 a.m. Prevailing Time
Meet at the Chiller (Main entrance, East side)

1. **BID DELIVERED SEALED BID TO:** Joe Adelman
Unit 5 Maintenance Office,
1999 Eagle Road
Normal, IL 61761

2. **BID DATE:** WEDNESDAY, OCTOBER 21, 2020 AT 10:00 A.M. PREVAILING TIME

Sealed proposals will be opened and read at 10:00 a.m. at the Maintenance Office.

Contractor shall submit with proposal basic descriptive information on included work and excluded work attached to his proposal to describe the design build proposal offered.

Contractor is in charge of directing the work, safety, barricades and all aspects of the means and methods of construction.

3. **BID SECURITY** – 5% as Bid Bond or certified or non-cancelable bank check payable to McLean County Unit District No. 5.

4. **OWNER'S PROTECTIVE BONDS** – Labor and Materials and Performance - Not required if proposal is less than \$100,000; required if proposal is over \$100,000.

5. **INSURANCE** – Upon award, Contractor shall provide insurance listing the Owner, Mclean County Unit District #5, and the A/E Middleton Associates as named insureds or additional insureds.
 - A. Workman's Comp, statutory
 - B. General Liability, personal injury not less than \$1,000,000/occurrence \$2,000,000 aggregate.
 - C. Property damage, Broad Form \$1,000,000 occurrence/ \$2,000,000 aggregate.

- D. Business and completed operations one year and \$1,000,000
- E. Auto rented and owned, \$1,000,000 occurrence / \$1,000,000 per person bodily injury.
- F. Limits can be met with umbrella coverage.

6. PROPOSALS

- A. All proposals shall be signed (live signatures, no copies of signatures accepted) by persons fully and duly authorized to sign same. See attached Bid Form.
- B. Any bid signed by a person other than set forth above shall enclose with his bid proposal evidence of Power of Attorney.
- C. No faxed proposals or modifications.
- D. By submitting a proposal as design build the contractor recognizes that each proposal will be considered on the merits of its content as well as cost. While the intent is to accept the lowest bid meeting the criteria, voluntary alternates may be considered or award if found to be advantageous and in the best interest to the District

7. AWARD OR REJECTION

- A. Although it is the intention of the Owner to accept the lowest qualified bid the Owner specifically reserves the right to waive all formalities and/or informalities, to reject any and all bids and/or accept the bid that is determined to be in the best interest of Mclean County Unit District No. 5.
 - 1. Best interest will be determined by the content of the proposal to the Owner in the event of an award, after reviewing included and excluded work.

8. COMMENCEMENT AND COMPLETION OF CONSTRUCTION

- A. Contractor shall not commence work until the agreement has been executed by both the Owner and Contractor and Insurance Certificate and Owner's Protective Bonds have been issued and accepted by the Owner and Architect.
 - 1. On site work may commence as soon as material is available from manufacturers.
 - 2. Schedule all work for completion prior to January 15, 2021.
 - 3. Once started, work continuously through construction.
- B. Pre-Construction Meeting will be November 2, 2020, 10:00 a.m., Normal Community West High School, 501 N. Parkside Rd., Normal, IL.

9. EXAMINATION OF SITE AND CONTRACT DOCUMENTS

- A. Bidder shall carefully examine bidding documents and inspect on site to obtain first-hand knowledge of existing conditions.

- B. Existing conditions: The original 1992 chiller is on the concrete pad in the Mechanical Room. There is a temporary chiller on site which is connected to the piping for chiller #2. Some parts of the original chiller #2 panel were damaged and will not be replaced in this contract. The allowance in the Base Bid is intended to correct unknown conditions.
- C. Each Bidder, by submitting his bid, represents over his or her signature, that he has so examined the bidding documents and inspected the site premises, that he understands the provisions of the bidding documents, and that he has familiarized himself with the local conditions under which the work is to be performed. Bidders will not be given extra payment or contract time for conditions, which could have been determined by such examination.

10. BIDDER QUALIFICATIONS

- A. Competency and responsibility of the Bidder, and of their proposed subcontractors, will be considered in making awards. Owner may require of the Bidder, prior to awarding the Contract, a detailed statement regarding the business, technical organization and plant facilities for the work that is contemplated. Information pertaining to the financial resources, experience of personnel and previously completed construction projects may also be required. The Owner may use this information in considering proposal.
- B. The Owner may reject a Bidder, if an updated financial statement prepared by a CPA not on the Contractor's payroll (bearing the CPA's live signature) shows the net worth of a Contractor to be less than 30% of the Contractor's bid including elected alternates for this work. Said statement, if required by the Owner, shall be furnished and paid for by the Bidder.
- C. The Owner reserves the right to reject any subcontractor to a prime contractor that cannot produce a favorable recommendation from a minimum of three (3) school districts or commercial owners involving a like size project or from said school district's Architect of record.

11. PROGRESS PAYMENTS

- A. Payment will be made for satisfactorily in place labor and materials, no payment for stored materials.
- B. If Performance and Payment Bonds are in place, ten percent (10%) of each pay request may be withheld pending final inspection. This retainage will be paid when the project is completed and the Contractor provides an affidavit showing all material suppliers, subcontractors and labor as paid.

12. EQUAL OPPORTUNITY EMPLOYMENT: The following clause is applicable unless this Contract is exempt under the rules and regulations of the Secretary of Labor of the State of Illinois.

“During the Performance of the Contract, the Contractor agrees as follows:

The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin. The Contractor will take affirmative action to ensure that applicants are considered and that employees are treated, during employment, without regard to their race, color, religion, sex, age or national origin.”

13. PREVAILING WAGE

- A. The Contractor shall pay and shall require his subcontractors to pay the prevailing hourly wages for the type of work performed in the job locality as is determined by the Illinois Department of Labor pursuant to the Illinois Prevailing Wage (280 ILCS 130/.01 et. seq.), see IDLR website for rates.
- B. Comply with HB188; submit payroll records with invoices or at end of job.

14. SALES TAX

- A. Materials supplied to a public school district are exempt from state sales taxes.
 - 1. Sales tax exemption number for Unit District No. 5 is: E9994-9091. This document expires 3/1/2025.
- B. The Contractor shall determine the extent of exemption and shall comply with the regulations established by the Illinois Department of Revenue and allow for this in his proposal.

15. TOBACCO PRODUCTS

- A. Smoking, chewing, etc. of ANY tobacco or medical marijuana shall not be permitted anywhere on school property by State Statute.

16. SEXUAL HARASSMENT POLICY

- A. The Owner will not tolerate sexual harassment in any form. Sexual harassment is defined, for the purpose of the policy, as “unsolicited, deliberate or repeated sexually derogatory statements, gestures or physical contact which cause discomfort or humiliation. Sexual harassment may involve pressure from a person of either sex against a person of the opposite sex or same sex...”

Should evidence be discovered that a Contractor, or a Contractor’s employee, has harassed a student or other individuals, the harasser shall be removed from the job site pending resolution of the claim.

17. EMPLOYEE-STAFF/STUDENT RELATIONSHIPS

- A. Except in an emergency situation involving safety, intermingling of the Contractor’s employees and the school facility, staff and students is to be avoided. Contractor or

Subcontractor personnel violating this requirement shall be removed from employment at this site. The Contractor Superintendent shall monitor this to the best of his ability. Contractor employees experiencing problems with students or faculty shall report same to their Project Superintendent, who shall promptly report the problem to an authorized representative of the Owner.

- B. Avoid profanity and inappropriate subject matter in conversation as students and staff may be within audible range and walls or ceiling spaces may allow sound transmission.

Verbal or physical action interpreted as sexual in nature or as sexual harassment will be grounds for removal of the employee. Further legal action remains the option of the persons affected.

In all aspects of this provision the Contractor shall be dealt with by the school, the Contractor's employees as adults have the greater responsibility and should not respond to inappropriate student behavior.

- C. Employees working on site may be subject to background check per the Illinois School Code, and upon request of the Owner or the Regional Office of Education.

18. BUILDING PERMITS

- A. The Architect will assist the Owner to obtain the Building Permit from the Regional Office of Education. There is no cost associated with obtaining the Building Permit.
- B. Provide all necessary permit related information to local city authorities.

19. TERMINATION OF CONTRACT

Termination of the agreement can be instituted with seven (7) days notice by the Owner for failure to perform in accordance with the agreement, schedules, non-payment of goods or services or other evidence of failure to perform to the intent of the agreement. Cost of said termination will be subject to the project completion by the Owner with the Contractor paying any shortfall in cost to complete. If the project is completed for less than the outstanding contract balance, then the Contractor will receive the remainder after all claims are satisfied.

20. BACKGROUND INVESTIGATION AND SEX OFFENDERS ON SCHOOL GROUNDS

- A. Illinois Criminal Background checks are applicable to this Contract. The Contractor or subcontractor shall only send construction workers to the site that have successfully passed an Illinois Criminal Background check, per 105 ILCS 5/10-21.9 and 105 ILCS 5/14-7.02
- B. The Contractor shall provide:
 - 1. Prior to start of work; maintain a list available to the Owner of all the employees who will be or are anticipated will be employed on site. This list shall be updated when new persons not originally listed will be working on site. This list shall also include names

of personnel employed by subcontractors.

- a. Contractor ensures that all persons have had background check paperwork initiate and sent to: Ann Fair, Unit 5 Maintenance Office, 1999 Eagle Road, Normal, IL 61761, Tel: 309-557-4100 or Fax: 309-557-4537.
 2. Persons temporarily on site such as truck drivers or employees making deliveries do not need to be listed, but the Owner reserves the right to request a background check.
 3. Provide an affidavit to the Owner that the Contractor or his subcontractor has performed an ISP background check by name on all personnel on site.
 4. Copies of employee lists and affidavits shall be promptly provided to the owner upon request.
- C. The Contractor shall not knowingly employ on school grounds any person who has not signed or will not sign an authorization for a criminal background check.
- D. The Owner reserves the right to run fingerprint background checks on any or all employees on site, randomly or specifically, and the cost of this check will be borne by the Owner. Upon request, provide information, which will not be shared, as needed to complete checks. This may include SSN, home addresses, fingerprint, address, etc. and any alias or former names used.
- E. The Contractor shall assume the responsibility to notify all on site employees or potential employees of this provision, and of the consequences of this provision.

21. SUBSTANCE ABUSE PREVENTION ACT ON PUBLIC WORKS PROJECTS

The Contractor shall comply with 820 ILCS 265/ which establishes a process for Drug Abuse on Public Projects. The Contractor shall have in place a written program that meets the requirement of this Act

22. **EXPIRATION OF PROPOSAL** – I/We agree that this proposal shall be binding for a period of not less than thirty (30) days following the bid due date set forth in the advertisement for bids.

23. GENERAL CONDITIONS

- A. Included in this Specification by this reference is AIA Document A201, 2007 Edition.
This document may be viewed at the Architect's Office.

24. WORK INCLUDED – DESIGN/BUILD PROPOSAL

- A. All work necessary to remove and dispose of the existing chiller and adapt piping, electrical power, and controls to accommodate the proposed replacement chiller.
1. Existing chiller is a Trane model # CHVE 500. Compressors have 4 capacity steps. Suction Temp. 44. Total KW177 - Total FLA 6835. Voltage 208/3/60 min. Evaporator remotely located in Mechanical Room: Serial # RTA155-8759.
Chiller Breakers: CT1 700 amp and CT2 600 amp.

2. Properly prepare for removal including removal of R-22 refrigerant, disconnect power, controls and piping. Unit 5 personnel will disconnect and remove R-22 and retain the existing refrigerant.
3. Promptly remove the existing equipment from site during the process of installation of new equipment.
 - a. Site visit is necessary to bid the removal of existing Chiller #2.
4. PROPOSED NEW CHILLER: CTV-2: Centrifugal Chiller (CTV): Model Number CVHE0500
 - a. Centrifugal liquid chiller with 3 stage compressor
 - b. Compressor size: 500 nominal tons
 - c. Incoming line hertz: 60
 - d. Compressor motor hertz: 60.
 - e. Incoming line voltage: 460 volt
 - f. Compressor motor voltage: 460 volt 3 phase
 - g. Startup Included - Trane Service must start equipment for warranty to be honored
 - h. Standard cooling conditions
 - i. Evaporator waterbox type: Non-marine
 - j. Evaporator waterbox construction: Standard
 - k. Evaporator waterbox connection: Victaulic
 - l. Thermal dispersion flow switch (IFM) - Field Installed (Fld)
 - m. Evap waterbox hng: both ends
 - n. Condenser fluid type: Water
 - o. Without condenser variable flow
 - p. Condenser waterbox type: non-marine
 - q. Condenser waterbox construction: Standard
 - r. Condenser water box passes: Two pass
 - s. Condenser waterbox connection: Victaulic
 - t. Condenser waterbox hinge: both supply and return
 - u. Standard tube sheet construction
 - v. Thermal dispersion flow switch (IFM) - Field Installed (Fld)
 - w. Generic BAS package
 - x. Extended Operation package
 - y. Enhanced flow mgt package ≤ 365 psi
 - z. BACnet enabled
 - aa. Tracer Internet Protccol
 - bb. With enhanced protection package
 - cc. Accessory: Spring isolators (Fld)
 - dd. R514 Refrigerant
 - ee. Trane Supplied Refrigerant
 - ff. Low Voltage Wye-Delta Starters
 - gg. Starter type: Unit Mounted Wye-Delta
 - hh. Starter maximum RLA: 346 Amps
 - ii. Starter power connection: Terminal Block
 - jj. Starter power connection maximum RLA: 320 Amps
 - kk. 5 Year Parts Warranty Unit
 - ll. Year Labor Warranty Whole Unit with Trane supplied starter

5. Please bid Trane in Base Bid. Offer Alternate price and delivery time for other brand: Carrier, etc., on Voluntary Alternate form 00 40 10.
6. Low voltage control side phase control to protect against operation during phase low voltage, or loss of phase with auto reset after voltage returns to normal.

B. Piping

1. Verify existing piping and modify and replace as needed for proper function and operation, support piping against movement and vibration.
2. Insulate all replaced piping.

C. Controls

1. Existing controls are Alpha Controls.
2. This Contractor shall hire Alpha Controls to enable the new chiller and evaporator to respond to the Alpha Control System, existing in this building.
 - a. Outdoor air temperature
 - b. Outdoor air humidity
 - c. Chilled water supply temperature
 - d. Chilled water return temperature
 - e. Chiller enable
 - f. Chilled water pump enable
 - g. Chilled water pump status
 - h. Leaving chilled water temperature setpoint
 - i. Chiller demand (in Kw)
 - j. Modify existing software to connect new Chiller #2 to the Normal Community West High School and District computer.
3. All control wiring in conduit.

- D. Evaporator: Replace with compatible unit selected to match chiller size and flow rates. Make accommodation as needed for proper operation and remote location.

E. Electrical

1. Power wiring. Furnish all required conduit, wiring, fuses, breakers, etc. and make final connections to all electrically powered or motorized equipment as shown on the Drawings.
 - a. All control wiring from chiller to evaporator and control panel to be installed in conduit.
 - b. Replace the existing chiller panel with new chiller panel provided by chiller manufacturer in the Base Bid.
 - c. The main panel feeding the chiller panel must be evaluated since the failure of the existing chiller was most likely caused by a lightning strike. If damage is found in main panel fuse holders, the repair of this will be funded by the allowance.

2. Verify proper location of equipment, outlets and controls, mounting heights, size and number of wires, etc., required prior to roughing in.
3. Verify motor types, voltages and sizes with the starter types, holding coil voltages, thermal overload capacities, interlocks, etc. No extras will be considered where this coordination was not properly completed prior to beginning work.
4. Where starters or control panels come as an integral part of the respective equipment, such as packaged air conditioning units, etc. this Contractor shall furnish and install all wiring and make final connections to the line side of the package disconnects or control panel. All power and control wiring beyond this point shall be by the Contractor furnishing the motor.

F. Start up: by contractor, to include instructions and maintenance instruction.

G. Warranty

1. One (1) year 100% labor and materials on the entire installation.
2. Five (5) year manufacturer on refrigeration components and compressors of the new equipment.

H. Existing Chiller #1 & #2 per BBA Drawing 1992

15684 CHILLERS

CHI, 2 TRANE CIVE 300 CENTRIFUGAL, 400 TON, 44" LWT, 30% GLYCOL, 95° OUTDOORS, 381 TOTAL FLA, 246 TOTAL KW, 460V, 3 PHASE, 800 GPM CHW, 11 FT. EVAPORATOR PRESSURE DROP, 11 FT. CONDENSER PRESSURE DROP, 70 GAL WATER STORAGE CAPACITY, 112" L x 80" W x 94" H, 1,200 GPM CONDENSER WATER, 88° F. ENTERING, 95° F. LEAVING, 0.00025 FOULING FACTOR, 16,000 LB. SHIPPING WEIGHT, 19,200 LB. OPERATING WEIGHT, EER: 14.8, 2 PASS EVAPORATOR, 2 PASS CONDENSER

KW/TON - FULL LOAD: 0.62

% LOAD	KW	KW/TON
100	246	0.62
75	179	0.6
50	129	0.62
25	74	0.74

ARI 550-90, R123

25. VOLUNTARY ALTERNATES, OPTIONS OR SUBSTITUTIONS

A. The Contractor may offer options which they believe will improve the result, be more serviceable, lower initial cost, lower operating costs, time factors for lowest down time and maintenance. This might include:

1. Other manufacturers.
2. Single compressor/condenser option.
3. Plate and Frame design.
4. Scroll compressors
5. Because cost is a consideration, we may consider such options as determined to offer comparable and suitable results.

26. ATTACHMENTS PROVIDED

1. Photo of Chiller #2 Data Plate
2. Three Photos of Chiller #2
3. 133 Plan from BBA Drawing HV1.17 1992

27. ALLOWANCE

1. **The General Contractor shall include in his bid an allowance of \$10,000.00 for additional time and material or Change Order work as directed and approved IN WRITING by the Owner and A/E. \$10,000.00 to be added to base bid.**
 - a. This is for unseen conditions when the roof materials and flashing are removed.
 - b. Unused portion of allowance will be returned to owner at time of Final Payment request via Change Order.
2. This is not for assignment or use by the Contractor or Subcontractors for any work that either perceives as additional effort unless the Owner is in concurrence IN WRITING.

MCUD5 NCWHS CHILLER #2 DATA PLATE

MODEL: CVHE500 99.01123456789012345678901234567890
MODEL NO: CVHE050FAIWD3UM2326P1E6N1C00000000TA00000
SERIAL NO: L93J09566

ELECTRICAL CHARACTERISTICS
RATED VOLTAGE: 460 VOLTS 60HZ 3 PH
VOLTAGE UTILIZATION RANGE: 414- 506 VAC
MINIMUM CIRCUIT AMPACITY: 446 AMPS
MAXIMUM FUSE: 700 AMPS
MAXIMUM CIRCUIT BREAKER: 700 AMPS
MAXIMUM OVERLOAD TRIP: 375 AMPS

	VOLTS-AC	HZ	PH	RLA	MAX LRAY	MAX LRAD
COMPRESSOR MOTOR	460	60	3	351	748	2363
OIL PUMP MOTOR	115	60	1		4.9 FLA	
OIL TANK HEATER	115	60	1		750 WATTS	
CONTROL CIRCUIT	115	60	1		60 VA MAX	
PURGE COMP MTR	115	60	1		7.0 FLA	

WHEN MOTOR CONTROLLER PROVIDED BY OTHERS
TRANE ENGINEERING SPEC. S6516-0281 APPLIES

GENERAL CHARACTERISTICS
REFRIGERANT SYSTEM
TO BE FIELD CHARGED ACTUALLY CHARGED
WITH 1000 LBS. OF R-123 WITH LBS. OF R-123

MAXIMUM REFRIGERANT WORKING PRESSURE
HI SIDE 15 PSIG LO SIDE 15 PSIG

FACTORY TEST PRESSURE
HI SIDE 45.0 PSIG LO SIDE 45 PSIG
FIELD LEAK TEST PRESSURE 8 PSIG MAX.
TESTED AT PSIG

LEAK TEST AND CHARGING SPECIFICATION ARE SUPPLIED
IN CONTROL PANEL (SERVICE LITERATURE MANUAL)

MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING
U.S. PATENTS: 3390545 - 3461685 - 3805547
4232533 - 4686834 - 4689967 - 4715190
4751653 - 4800732 - 5031410

CHW - 800 GPM 8.01 psid 57.1° IN 44° out
CW - 1200 GPM 7.21 psid 85° IN 94.5° out

MCUD5 NCWHS CHILLER #2 PHOTO 1

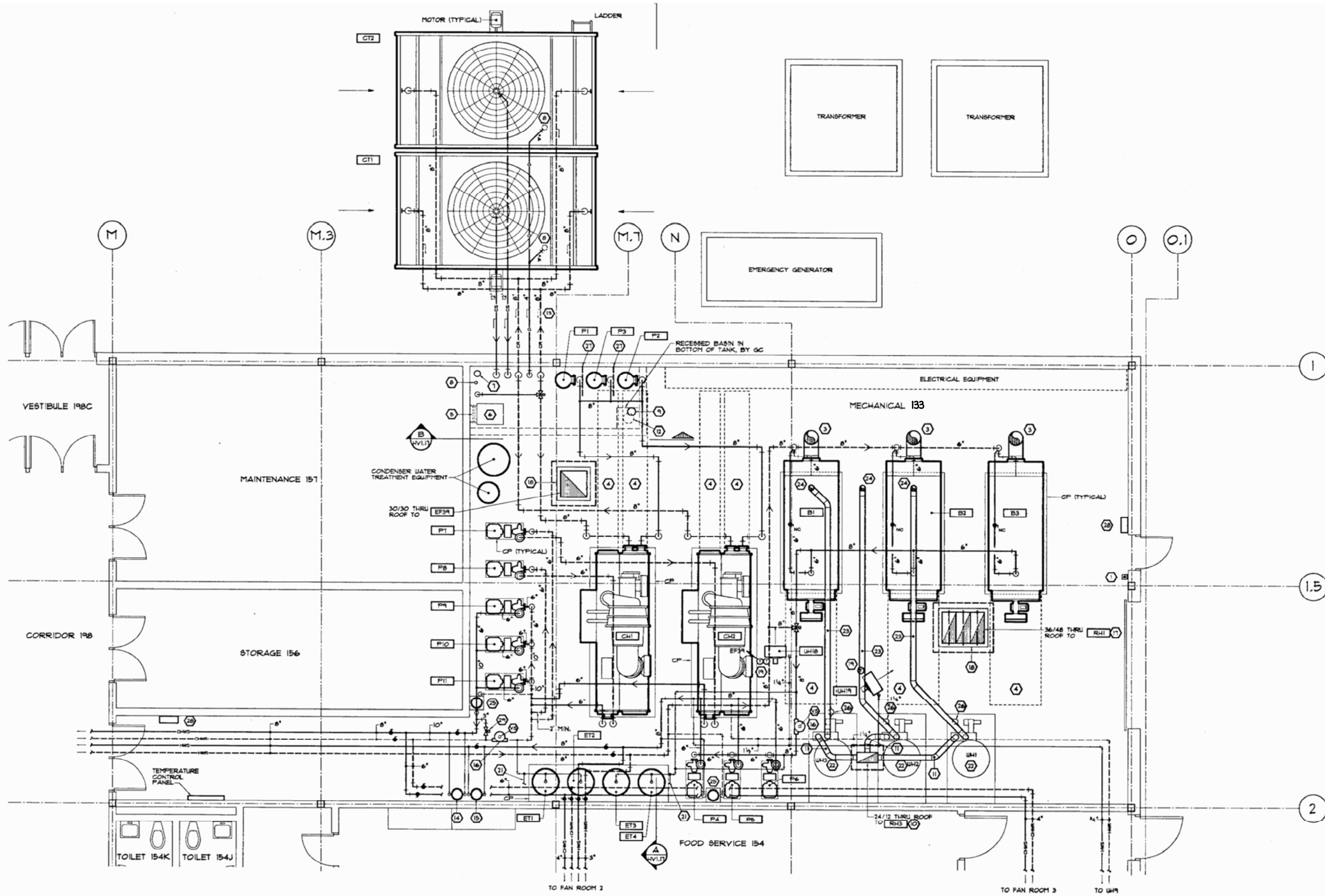


MCUD5 NCWHS CHILLER #2 PHOTO 2



MCUD5 NCWHS CHILLER #2 PHOTO 3





NCWHS - CHILLER NO.2
 SCALE: NOT TO SCALE 2535 NCWHS CHILLER NO2.dwg

PROJECT NO. 25352320		ISSUE DATE SEPTEMBER 29, 2020		SHEET M1		OF 1 SHEETS	
CHILLER NO.2 REPLACEMENT NORMAL COMMUNITY WEST HIGH SCHOOL				1702 W. College Ave. Suite E Normal, IL 61761-2793 P: 309.452.1271 F: 309.454.8049 middletonassociates.net			
				MIDDLETON ASSOCIATES, INC. ARCHITECTS			
THE CONTRACTOR SHALL VERIFY CONDITIONS & DIMENSIONS ON THE JOB. INFORMATION SHOWN ON ANY PART OF THE DRAWINGS SHALL APPLY TO SIMILAR CONDITIONS AT OTHER LOCATIONS IN THE WORK UNLESS SET FORTH OTHERWISE							
REVISIONS	NO.	DATE	REMARKS				