

Process Chiller for York C.I. Cook Chill

SECTION 01000 SUPPLEMENTAL GENERAL CONDITIONS (REV 8-5)

01100 CONTRACT DOCUMENTS:

- A. All work pertaining to the Project shall be in accordance with the provisions of the following documents as they may exist:
 - 1. Security Regulations for Contract Forces
 - 2. Specifications
 - 3. Drawings
 - 4. Instructions to Bidders,
 - 5. General Conditions of Contract.
- B. Precedence shall be given to the above documents in the order they are listed as necessary to resolve any conflicts between them

01110 Summary:

- A. The Project work is to be performed at York C.I. at 201 West Main St. Niantic 06357. The purpose of this project is to buy and install a process chiller with free cooling, install new piping for the new process chiller, install & modify the return piping in the kitchen for the Cook Chill Tumbler units and remove two failed Ice Banks. Also relocate an existing chiller to Gates C.I.
- B. All work to be completed by Dec 7, 2016. All work must be done in seven days .(If it affects the Cook Chill Processing)

1111 Codes and standards:

All the contractor work shall comply with and be in compliance with the latest building, construction and electrical codes, standards and supplements including but not limited to:

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- Connecticut State building code, supplement and referenced publications.
- Ct. Dept. of Correction Rules & Reg.
- International Mechanical and Plumbing Code.
- American National Standards Institute(ANSI) A117.1-1992
- Department of Labor Occupational Safety & Health Administration (OSHA)
- Life Safety Code NFPA101 and State supplements
- Connecticut Dept. of Public health.
- Chiller Manufactures Installation Spec Sheet
- Energize CT / EverSource Energy Efficiency Incentive Application
EMS6667-3 Rev 06-16 CO256 Rev 06/16

1112 DEPARTMENT REPRESENTATIVE:

The department representative for this project is:

Thomas Phillips Plant Facility Engineer 1

Facilities Management and Engineering

District 3

201 West Main St.

Niantic Ct. 06357

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860-249 9802 Cell Phone 203 806 2660 Fax

E-Mail Thomas.Phillips@ct.gov

The Department representative is referred to in the contract documents as “**The Engineer**”. The authority of this engineer is as follows:

- Review and approval of all contract work, equipment, materials, and shop drawings submitted for this project.
- Interpretation of the Plans and Specifications.
- Determine if the Contractors work is being performed in a logical sequence and prosecuted in the best interest of the department and in accordance with the general conditions and project specifications.
- Acceptance of all Contract work and verification of the Contractors conformance with the contract documents.
- Authorize and initiate payment for all completed and accepted work.

1113 SITE REPRESENTATIVES:

The site representatives for this project are:

Thomas Phillips PFE1

E-Mail Thomas.Phillips@ct.gov

Cell Phone 860 249 9802 Fax 203 806 2660

York C.I.

Tracy Baremore - Correctional Maintenance Supervisor

Phone 860 451 3289

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SCOPE OF THE WORK:

The scope of the project work is as follows:

1. Dismantle and properly dispose of the two existing ICE BANKS at York C.I. Niantic Ct.
2. Dismantle, rig, package and transport from the York C.I. a McQuay 110 ton Chiller and place it at Gates C.I. (Niantic Ct.).
3. Supply and install the following Process Chiller Unit with Free Cooling or Equal with the same features. Equal unit must be approved by Spec writer. (PFE1 Phillips).

Motivair Model MLC - FC – 390-E

460/3/60 volts, Options--15 hp pump , PCO3 controller, , , low ambient , free cooling, set for low temp, 32 degrees F , Free Cooling , dual independent refrigeration circuits , automatic lead/lag control, eight total steps of unloading, year round cooling, low ambient operation built in, safeties and alarms .(Designed Nominal Cooling Capacity 110 tons at EWT 54 degrees F, LWT 44 degrees F , ambient 95 degrees F). PLC Controls on the following items, adjustable water set point, Compressor lead / lag , remote stop/start, alarm relay, low water temperature alarm , high/low Refrigeration pressure alarm, anti-freeze alarm, compressor overload alarm, voltage irregularity alarm , PLC malfunction alarm, Probe failure alarm. Free-cooling software and control package. Note unit will operate at 32 degrees F with a 30-40 % mix of Glycerin Antifreeze year round.

4. Prep site (York C. I.) as required. For installation of the new process chiller unit.

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5. Mount & secure the new Chiller to the concrete slab.
6. Setup each unit to run with free cooling automatically if not built in.
7. Supply and install all new 4" Victaulic piping to tie in the new Process Chiller to the existing system (York C.I.). (Steel Pipe must be of the same or greater schedule thickness.).
8. Install new isolation Ball valves (4") on both supply and return lines.
9. Install new piping isolations on the chilled water piping (rated for 100psi or better.)
10. All new piping will be properly insulated for outside weather and will be UV resistant and water tight. Use 1 inch AEROCEL EPDM products or equal (Equal to be approved by Spec Writer PFE1 Phillips).
11. Supply and install new electrical wire, new conduit, new circuit breaker (if required) and connections for the new Process Chiller per State Electrical Code.
12. Supply and install a new disconnect for the new chiller.
13. Supply and install all necessary insulation and fittings on all new piping as well as replacement of any damaged insulation during construction.
14. Set the chilled water set point to maintain 32 degrees.
15. Install heat tape with a controller on the new sections of pipe. (Outside area).

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16. (Inside the Cook Chill Kitchen Area) Remove existing return header piping and Install new 4" CPVC piping on the return header in the Cook Chill Kitchen. New piping to have four 2 inch takeoffs and 2 "or 1.5' ball valves in it and a flow control valve installed at the start of the return header.
17. (inside the Cook Chill Kitchen Area) Re-pipe the outlets (2" or 1.5") of the Cook Chill Tumbler units to the new 4" CPVC return header piping. Copper piping and fittings to be used.
18. All new piping to be insulated with 1 inch Aerocel EDPM or equal
19. Pressure Test the system with 100% water first for leakage, then remove the water. (Tested to 50 PSI)
20. Install a fill tap with valve on the return line to add fluid inside the boiler room.
21. Install the Glycerin Antifreeze (provided by the State) to get a mixture of 30-35 % in the Process chiller's chilled water System
22. Perform all testing of the Process Chiller IAW the Manufactures' specifications.
23. Inspect all new piping and equipment for leakage.
24. Before any work is to commence all product submittals must be submitted for project engineer approval. Also submit a Energize CT / EverSource Energy Efficiency Incentive Application EMS9997-3 (Rev 06-16)

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25. Perform Factory Start-up and owner instruction on all equipment installed.
26. Warranty all work and equipment for 1 Year.
27. Clean work site when work is completed.
28. Supply Drawings & manuals of Equipment.

Any work necessary to make the project work complete but not implicitly mentioned within the Specifications shall be included in the Contract and shall be performed by the Contractor at no extra cost to the Department.

01120 SUPPLEMENTAL BIDS:
Supplemental work will be awarded with the base bid as one lump sum contract depending upon the availability of funds. The supplements are listed in order of priority in that successive supplements will not be awarded without the previous ones being awarded as well.

01130 USE OF MANUFACTURED PRODUCTS:

- A. When three or more manufacturers are listed in the specifications, one of these manufacturers must be used,
- B. When less than three names are listed, these names are intended as a standard of quality. Alternate manufactures must be submitted for DOC prior to the award of the contract as specified in the General Conditions. Otherwise, one of the listed manufacturers must be used.
- C. When a specific manufacturer is not named, the use of a particular manufactured product will be up to the engineers discretion provided the performance requirements of the contract are met.

01110 SCHEDULE OF VALUES:
Upon award of the Contract, the Contractor shall submit to the DOC Representative for approval a Schedule of Values which breaks down the contract price by each Section of the specification.

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01120 CONTRACTOR SUBMITTALS:

Prior to the start of any work on the project site the contractor must submit the following documents for approval:

- A. Contractor/Subcontractor emergency contact phone numbers: Submit a complete list of emergency contact phone numbers, for all of the lead project personnel. Contact numbers should include office, home, cell phone and pager numbers.
- B. Work progress schedule: Schedule is to list start and completion dates for all major work items in the project.
- C. Licenses/Certifications: Where applicable and required by State Statue and Industry Governing Board. Each Contractor/Subcontractor is to submit a current copy of the state of Connecticut Department of Consumer Protection issued license/certification for each individual who will be performing work on the Project.
- D. Manufactures Specification Sheet: Four (4) sets of manufacturer produced specification sheets for all materials, components, and assembly items, including the construction materials, to be used for this project.
- E. Shop drawings: Where applicable to the project, submit four (4) sets of "Shop Drawings" in sufficient detail to establish the work item and or work detail of any component and/or installation assembly used in this project.

The Contractor is to submit all of these submittal items as soon as practical after the award of the contract.

The contractor will not be permitted to proceed with any contract work until all materials, work methods and shop drawings have been submitted and approved by the Engineer.

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The Contractor must submit to the Engineer, in writing, any request to deviate from the original shop drawings or from the requirements of the contract.

01130 PROJECT MEETINGS:

- A. The Contractor must attend a Pre Construction Meeting

01140 CHANGES TO THE WORK

- A. Construction Changes:

1. When a contractor determines that different or additional work is needed in order to accomplish the intent of the basic contract, it must first submit a Request for Information (RFI) seeking clarification of plans and specifications.
2. Upon direction from the Engineer, the contractor shall then either proceed with the work as directed to complete the contracted work or submit an additional cost and time proposal.
3. The contractor shall not proceed with any work, which he considers a change to the contract without written confirmation that the owner accepts this additional work for a specified cost.
4. If the Contractor proceeds with any such work without such written approval as a way to avoid interruptions of the work, he does so at his own expense.

- B. Substitution Changes

1. There will be no substitutions unless in advance by the Engineers approval.

01140 INVOICES:

As provided for in the Instructions to Bidders, IB.1.16, the contract amount shall be paid in three installments, each upon the receipt and approval of an Application for Payment of an amount computed as the total of the following:

- C. Take that portion of the Contract Sum properly allocated to the completed Work as determined by multiplying the percentage completion of each portion of the Work as indicated in the Schedule of Values.

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- D. Add that portion of the Contract Sum properly allocated to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction.
- E. Subtract a retainage of 10% of the above value of completed work.
- F. Subtract the aggregate of previous payments made by the Agency, if any.
- G. The second payment shall be made upon Substantial Completion of the Work and shall be determined in accordance with Paragraph D. The second payment shall not increase the total payments to more than ninety percent (90%) of the Contract Sum, less such amount as the DOC Representative shall determine for incomplete Work and unsettled claims.
- H. Final Payment of the out-standing balance and the retainage shall be made upon satisfactory completion of all items of Work.

1.01 RECORD DOCUMENTS:

- A. General:
Do not use record documents for construction purposes. Protect Record Documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the Architect's reference during normal working hours. Keep documents current; do not permanently conceal any work until required information has been recorded. Failure to keep documents current is sufficient cause to withhold progress payments.
- B. Record Drawings:
The Contractor shall maintain one clean, complete undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the *installation varies substantially from the Work as originally shown. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements, which would be difficult to measure and record at a later date.
 - 1. Mark record sets with erasable pencil to distinguish between variations in separate categories of the Work.

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2. Mark all new information that is not shown on Contract Drawings.
3. Note related change-order numbers where applicable.
4. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other identification on the cover of each set.
5. Upon completion of the work, the Contractor shall submit Record Drawings to the Agency Representative for the Owner's Records.
6. If applicable supply a CAD version of the new work as built.

END OF SECTION 01000