



**DEPARTMENT of CHILDREN and FAMILIES**  
*Making a Difference for Children, Families and Communities*



Susan Hamilton MSW  
 Commissioner

M. Jodi Rell  
 Governor

Riverview Hospital  
 Basement Office HVAC System Renovations  
 Middletown, CT

Project No. 12-RVHC-052

<b>BID OPENING</b>	<b>2:00P.M.</b>	<b>MARCH 5, 2008</b>
<b>ADDENDUM NUMBER 1</b>	<b>DATE OF ADDENDUM:</b>	<b>FEB. 26, 2008</b>

*The following clarifications are applicable to Drawings and Specifications for the project referenced above:*

Item 1: Prevailing wage rates - Prevailing wage rates are attached and must be applied if the bid is close to or over \$100,000.

Item 2: Sheet M1, General Notes, clarifies soffits, relocations etc.

Item 3: Existing building management system is maintained by SNE Building Systems

Item 4: Add to Division 15 on sheet M4 attached item # 8 from CES

**This Addendum must be Signed & Returned with your Bid.**

\_\_\_\_\_  
 Authorized Signature of Bidder

\_\_\_\_\_  
 Company Name

STATE OF CONNECTICUT  
 Phone (860) 550-6669 - Fax (860) 560-5019  
 505 Hudson Street, Hartford, Connecticut 06106-7107  
 E-Mail: [richard.grossman@po.state.ct.us](mailto:richard.grossman@po.state.ct.us)  
[www.state.ct.us/dcf](http://www.state.ct.us/dcf)  
 An Equal Opportunity Employer



## Addendum

Addendum Number: 1  
Addendum Date: February 25, 2008  
Written To: Richard Grossman  
Project Name: Silvermine Hall - Basement Office HVAC System Renovations  
CES Project Number: 27016  
Written By: John Rabuck

The work shall be carried out in accordance with the following supplemental instructions and in accordance with the Contract Documents.

Add the following to the Division 15 – Mechanical Specifications on Sheet 4:

8. PIPING & PIPING ACCESSORIES

- A. PIPING SHALL BE SCHEDULE 40 STEEL WITH WELDED JOINTS, THREADED JOINTS, OR MECHANICAL COUPLINGS, OR SHALL BE TYPE L COPPER WITH SWEAT OR THREADED FITTINGS.
- B. PIPE HANGERS AND SUPPORTS SHALL MEET THE REQUIREMENTS OF MSS SP-69 AND SP-89 DEVELOPED BY THE MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVES AND FITTINGS INDUSTRY INC.
- C. PUMP AND PIPING ACCESSORIES SUCH AS BALANCING VALVES SHALL BE STANDARD CATALOG PARTS BY BELL & GOSSETT, TACO, OR ARMSTRONG.
- D. FLEXIBLE CONNECTORS SHALL BE SIMILAR TO MASON INDUSTRIES MASONFLEX MFEJ SERIES.

Project: Install New AC System At Riverview Hospital In The Silvermine Building

**Minimum Rates and Classifications  
for Building Construction**

**B** 10489

**Connecticut Department of Labor  
Wage and Workplace Standards Division**

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

**Project Number**

**Project Town** Middletown

Project: Install New AC System At Riverview Hospital In The Silvermine Building

**CLASSIFICATION**

	<b>Hourly Rate</b>	<b>Benefits</b>
1a) Asbestos Worker/Insulator (Includes application of insulating materials, protective coverings, coatings, & finishes to all types of mechanical systems; application of firestopping material for wall openings & penetrations in walls, floors, ceilings.	30.21	17.10
1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters.**See Laborers Group 7**		
1c) Hazardous Material Handler: Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems.	20.50	10.30
2) Boilermaker	32.73	8.72 + 33%
3a) Bricklayer, Cement Mason, Cement Finishers, Plasterers, Stone Masons	30.50	18.04 + a
3b) Tile Setter	29.88	16.01

**As of: Tuesday, February 19, 2008**

Project: Install New AC System At Riverview Hospital In The Silvermine Building

3c) Terrazzo Workers, Marble Setters 30.00 17.99

3d) Tile, Marble & Terrazzo Finishers 24.25 13.93

-----LABORERS-----

4) Group 1: Laborers, carpenter tenders, wrecking laborers, fire  
watchers. 23.00 13.40

4a) Group 2: Mortar mixers, plaster tenders, power buggy  
operators, powdermen, fireproofers/mixer/nozzleman. 23.25 13.40

4b) Group 3: Jackhammer operators, mason tenders. 23.50 13.40

4c) \*\*Group 4: Pipelayers (Installation of water, storm drainage or  
sewage lines outside of the building line with P6, P7 license) [If using  
this classification call the Labor Department for clarification] 23.85 13.40

4d) Group 5: Air track operators, Sand blasters. 23.75 13.40

4e) Group 6: Nuclear toxic waste removers, blasters. 26.00 13.40

4f) Group 7: Asbestos removal and encapsulation (except it's  
removal from mechanical systems which are not to be scrapped). 24.00 13.40

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Project: Install New AC System At Riverview Hospital In The Silvermine Building

4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	23.50	13.40
4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	23.00	13.40
5) Carpenter, Acoustical Tile Worker, Concrete Form-Wood Builder, Floor Covering (Including Drywall Hanging), Modular-Furniture Systems Installers.	26.65	16.21
5a) Millwrights	27.40	16.21
6) Electrical Worker, Cable Splicer (electric) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	33.10	18.02
7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	39.595	14.885+a+b
8) Glazier (Trade License required: FG-1,2)	30.38	13.10 + a
9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	31.30	21.93 + a
----OPERATORS----		
Group 1: Crane handling or erecting structural steel or stone, hoisting engineer 2 drums or over, front end loader (7 cubic yards or over); work boat 26 ft. and over.	32.05	16.05 + a

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Project: Install New AC System At Riverview Hospital In The Silvermine Building

Group 2: Cranes (100 ton rated capacity & over), backhoe over 2 cubic yards, piledriver (\$3.00 premium when operator controls hammer).	31.73	16.05 + a
Group 3: Backhoe, cranes (under 100 ton rated capacity), gradall, master mechanic, hoisting engineer (all types of equipment where a drum and cable are used to hoist, pull or drag material regardless of motive power of operation); rubber tire backhoe	30.99	16.05 + a
Group 4: Trenching machines; lighter derrick; CMI Machine or similar; Koehring Loader (skooter).	30.60	16.05 + a
Group 5: Specialty Railroad Equipment; Asphalt Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete pumps; drills with self contained power units; Boring machine; Post hole digger; Auger; Pounder; Well Digger	30.01	16.05 + a
Group 5 continued: Milling machine (over 24" Mandrell); Side Boom; Combination hoe and loader; Directional driller; Grader.	30.01	16.05 + a
Group 6: Front end loader (3 up to 7 cubic yards); Bulldozer.	29.70	16.05 + a
Group 7: Asphalt roller, concrete saws and cutters (ride on types), vermeer concrete cutter, Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under Mandrell).	29.36	16.05 + a
Group 8: Mechanic, grease truck operator, hydroblaster; barrier mover; power stone spreader; welding; work boat under 26 ft.; transfer machine.	28.96	16.05 + a
Group 9: Front end loader (under 3 cubic yards), skid steer loader regardless of attachments, (Bobcat or Similar): forklift, power chipper; landscape equipment (including Hydroseeder).	28.53	16.05 + a
Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	27.96	16.05 + a

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Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment. 26.49 16.05 + a

Group 12: Wellpoint operator. 26.43 16.05 + a

Group 13: Compressor battery operator. 25.85 16.05 + a

Group 14: Elevator operator; tow motor operator (solid tire no rough terrain). 24.71 16.05 + a

Group 15: Generator operator, compressor operator, pump operator, welding machine operator. 24.30 16.05 + a

Group 16: Maintenance engineer. 23.65 16.05 + a

Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator 25.98 16.05 + a

Group 18: Power safety boat; vacuum truck; zim mixer; sweeper 25.54 16.05 + a

-----PAINTERS (Including Drywall Finishing)-----

10a) Brush, Roller 26.87 13.10

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10b) Taper	27.62	13.10
10c) Paperhanger	27.37	13.10
10d) Red Label	27.37	13.10
10e) Blast and Spray	29.87	13.10
10f) Tanks, Tower, Swingstage	28.87	13.10
11) Plumber P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	(Trade License required: 33.57	18.96
12) Post Digger, Well Digger, Pile Testing Machine	26.25	9.20 + a
13) Roofer (composition)	29.40	13.48
14) Roofer (slate & tile)	29.90	13.48
15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	29.55	23.15

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16) Pipefitter (Including HVAC work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	33.57	18.96
-----TRUCK DRIVERS-----		
17a) 2 Axle	25.43	11.5225
17b) 3 Axle, 2 Axle Ready Mix	25.53	11.5225
17c) 3 Axle Ready Mix	25.58	11.5225
17d) 4 Axle, Heavy Duty Trailer up to 40 tons	25.63	11.5225
17e) 4 Axle Ready Mix	25.68	11.5225
17f) Heavy Duty Trailer (40 Tons and Over)	25.88	11.5225
17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	25.68	11.5225
18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	36.50	15.10 + a

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***Welders: Rate for craft to which welding is incidental.***

***\*Note: Hazardous waste removal work receives additional \$1.50 per hour for power equipment operators and \$1.25 per hour for truck drivers.***

***\*\*Note: Hazardous waste premium \$1.50 per hour over classified rate***

**Crane with 150 ft. boom (including jib) - \$.75 extra**  
**Crane with 200 ft. boom (including jib) - \$1.25 extra**  
**Crane with 250 ft. boom (including jib) - \$2.50 extra**  
**Crane with 300 ft. boom (including jib) - \$3.50 extra**  
**Crane with 400 ft. boom (including jib) - \$4.00 extra**  
**Crane with 500 ft. boom (including jib) - \$5.00 extra**

**All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".**

**Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.**

*The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.*

*Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.*

*It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.*

*The annual adjustments will be posted on the Department of Labor's Web page: [www.ct.gov/dol](http://www.ct.gov/dol)*

*The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.*

*All subsequent annual adjustments will be posted on our Web Site for contractor access.*

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*Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage*

**All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.**

**All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)**

**Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.**

**Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.**

**As of: Tuesday, February 19, 2008**

## **INVATATION TO BID**

The Department of Children and Families is accepting sealed bids for:

### **Basement Office HVAC System Renovations**

Project Number: 12-RVHC-052  
Riverview Hospital, Middletown, CT

Bids must be submitted on the forms supplied and in the manner specified. Complete Bid Documents are attached to this invitation.

A mandatory pre-bid conference will be held at the Riverview Hospital, 915 River Road, Middletown, CT, at **10:00 A.M., FEBRUARY 15, 2008.** Full size drawings will be distributed to those in attendance.

Bid is open **only** to those current in the **State's Supplier Diversity Program** (Set-Aside Program)

Bids will be accepted at the Riverview Hospital, Attention Connie Tessarzik , Business Office, 915 River Road, Middletown, CT 06457 until **2:00 P.M. local time on MARCH 5, 2008** at which time they will be publicly opened and read.

The Bid, when required, shall be accompanied by the Bidder's financial Statement, as well as a Bid Bond in the amount of ten percent (10%) of the amount bid for any project in excess of \$50,000. All bonds required for this Project shall be acceptable to the DCF and as a minimum, issued through a bonding company licensed to transact such business in the State of Connecticut and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the "Treasury Department Circular 570".

The successful Contractor shall be required to provide a Labor and Material Payment Bond and a Performance Bond for one hundred percent (100%) of the Contract price. The right is reserved to reject any or all Bids, in whole or in part, to award any item, group of items, or total Bid, and to waive any informality or technical defects, if it is deemed to be in the best interests of the DCF.

No Bidder may withdraw its Bid within ninety (90) days of the date of the Bid opening. Should there be reasons why the Contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the DCF and the Bidder.

# STATE OF CONNECTICUT



## DEPARTMENT OF CHILDREN AND FAMILIES



## RIVERVIEW HOSPITAL

915 RIVER ROAD  
MIDDLETOWN, CT 06457

### BASEMENT OFFICE HVAC SYSTEM RENOVATIONS

Project No. 12-RVHC-052 February 5, 2008

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	* <u>THESE DOCUMENTS MUST BE RETURNED WITH YOUR BID</u>		

**TECHNICAL SPECIFICATIONS**

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<b>DIVISION 15</b>	<b>MECHANICAL</b>	<b>Page Count</b>
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<b><u>DRAWING LIST</u></b>	
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## INSTRUCTION TO BIDDERS AND CONDITIONS OF BID

### SEALED BIDS

Bids must be submitted in a sealed envelope, clearly marked with the appropriate project number, date, time of bid opening, and name and address of the bidder. All pages of this Invitation & Bid Form must be submitted with your bid. Telephonic, faxed and emailed bids will not be accepted under any circumstances.

### SUBMISSION OF BIDS

Bids may be mailed, or delivered in person to the following address to arrive by the bid closing date and time. Late bids will not be accepted and will be returned to the bidder unopened. Extensions will not be granted.

**Connie Tessarzik, Business Office  
Department of Children and Families  
Riverview Hospital  
915 River Rd.  
Middletown, CT 06457**

### PRE-BID MEETING

A mandatory pre-bid meeting will be held on-site **Friday, February 15, 2008, 10:00 AM**. The meeting will be at the Riverview Hospital, 915 River Rd, Middletown, CT 06457. Contractors proposing for this project should visit and examine the site before proposing, to verify the job conditions and dimensions. This meeting is intended to review the Bid requirements and answer any questions that interested bidders may have about this Bid. Full size drawings will be available at this meeting.

### BID CLOSING DATE

Bids must be received and stamped into Mrs. Tessarzik's office no later than **Wednesday, March 5, 2008, 2:00 PM** at the location indicated above. All bids will be opened at the stipulated time and place. Any bidder who wishes to attend may do so.

### BIDDERS QUALIFICATIONS

Each bidder shall have successfully completed ten (10) HVAC projects of similar size and dollar value. The bidder shall at the time of the bid opening possess the correct occupational licenses, all professional licenses or other authorizations necessary to carry out the work required by these documents pursuant to all applicable Federal, State and



Local Laws, Statues, Ordinances, and rules and regulations of any kind. The bidder shall have been in business practicing in the State of Connecticut under the present company name and license for at least five (5) years.

### STATES RIGHTS

The State reserves the right to reject any and all bids, and to waive any informality in the bids. No bids may be withdrawn for at least 90 days after the scheduled closing times for receipt of bids.

### STANDARD CONDITIONS

1. Bid Security ó Bid security in the form of a certified check, bank check, or bid bond in the amount equal to 10% of the bid is required on all bids in excess of \$50,000.00. Checks should be made payable to:  

Treasure, State of Connecticut
2. Security for faithful performance ó Performance Bond and Labor and Material Bond in the amount of 100% of the purchase order price must be filed by the successful low bidder prior to the start of construction if the bid is in excess of \$50,000.00.
3. Personal liability and property damage insurance is required per the Certificate of Insurance included herein.
4. Contractor shall commence work within two weeks after receiving notice to proceed and continue for (60) calendar days for completion of the project, unless otherwise specified or agreed.
5. Contact Persons: Mike Bartolotta, Plant Facility Eng, 860-704-4107.; Fax 860-704-4123
6. Liquidated Damages: \$350.00 per day.

### SUPPLEMENTAL BIDS

Occasionally, the State may request óSupplemental Bidsö to a special project. When listed on the Invitation and Bid Form, each bidder is required to bid on each Supplement Bid.

CONNECTICUT SALES AND USE TAX

All contractors shall familiarize themselves with the current regulations of the Department of Revenue Service. The tax on materials or supplies exempted by such regulations shall not be included as part of the Contractor's bid.

DISCREPANCY IN AMOUNTS

In the event of any discrepancy between the amount written in words and the amount written in numerical figures, the amount written in words will be controlling. In case of error in the extension of prices in the bid, the unit price will govern.

START AND COMPLETION DATES

All work is to be completed within the specified number of days from the starting date, which is to be established at the time the Contract is awarded.

SUBLETTING OR ASSIGNING OF CONTACT

The contract or any portion thereof, or the work provided for therein, or the right, title, or interest of the contractor therein may not be sublet, sold, transferred, assigned or otherwise disposed of to any person, firm, or corporation without the written consent of the Commissioner.

No person, firm, corporation other than the contractor to whom the project was awarded shall be permitted to commence work at the site of the project until such consent has been granted.

END OF SECTION

## BID PROPOSAL FORM

TO: Connie Tessarzik, Business Office  
Department of Children and Families  
Riverview Hospital  
915 River Rd.  
Middletown, CT 06457

FOR: Basement Office HVAC System Renovations  
Riverview Hospital  
915 River Rd.  
Middletown, Ct 06457  
Project No. 12-RVHC-052

DATE: \_\_\_\_\_

FROM: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

In compliance with the Instructions to Bidders and Conditions of Bid; and subject to all conditions thereof, the undersigned offers and agrees to furnish the labor and materials and to complete work called for by the project's plans and specifications within the allotted time (120) **one hundred twenty calendar days** for the Lump Sum of:

**Bid Price:**  
WORDS \_\_\_\_\_ DOLLARS

Figures:(\$ \_\_\_\_\_ )

**Unit Prices:**

n/a

The General Contractor on this project will be required to perform not less than (50%) of the completed dollar value of the work with its own forces.

I (we), the undersigned, hereby declare that I am (we are) the only person(s) interested in this proposal: That it is made without any connection with any other person making any bid for the same work: that no person acting for, or employed by, the State of Connecticut is directly or indirectly interested in this proposal, or in any contract which may be under it, or in expected profits to arise there from: that this proposal is made without directly or indirectly influencing or attempting to influence any other person or corporation to bid or to refrain from bidding or to influence the amount of the bid of any other person or corporation: that this proposal is made in good faith without collusion or connection with any other person bidding for the same work; and that this proposal is made with distinct reference and relation to the plans and specifications prepared for this contract.

I (we) further declare that in regard to the conditions affecting the work to be done and the labor and materials needed, this proposal is based solely on my (our) own investigation and research and not in reliance upon any representations of any employee, officer or agent of the State.

Contractor (Owner/Officer): \_\_\_\_\_

Date: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

(AFFIX CORPORATE SEAL)

END OF SECTION 6 BID FORM

**DEPARTMENT OF CHILDREN AND FAMILIES  
STATE OF CONNIECTICUT**

STANDARD BID BOND

KNOW ALL MEN BY THESE PRESENTS, That we, \_\_\_\_\_

\_\_\_\_\_, hereinafter called the Principal,

of \_\_\_\_\_, as Principal,

and \_\_\_\_\_, hereinafter called the Surety, a corporation organized and existing under the laws of the State of

\_\_\_\_\_, and duly authorized to transact a surety business in the State of Connecticut, as Surety, are held and firmly bound unto the State of Connecticut, as Obligee, in the penal sum of ten (10) percent of the amount of the bid set forth in a

proposal hereinafter mentioned, \_\_\_\_\_

\_\_\_\_\_, lawful money of the United States of America, for the payment of which, well and truly to be made to the Obligee, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**THE CONDITION OF THIS OBLIGATION IS SUCH**, That, whereas the Principal has submitted or is about to submit a proposal to the Obligee related to a contract for Project No.: 10-HMCF-049

**NOW, THEREFORE**, if the said contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter into the said contract in writing with the State of Connecticut and give the required bonds, with surety acceptable to the Obligee, or if the Principal shall fail to do so, pay to the Obligee the damages which the Obligee may suffer by reason of such failure not exceeding the penalty of this bond, then this obligation shall be void, otherwise to remain in full force and effect.

**SIGNED, SEALED AND DELIVERED** this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_

\_\_\_\_\_  
PrincipalsøSignature

\_\_\_\_\_  
Surety

\_\_\_\_\_  
(Print Name)

by

\_\_\_\_\_  
Its attorney in fact

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
(Print Name)

**EXECUTIVE ORDERS:**

This contract is subject the provisions of Executive Order No. Three of Governor Thomas J Meskill, promulgated June 16, 1971, concerning labor employment practices; to Section 6 and 10 of Executive Order No. 7B of Governor M. Jodi Rell, promulgated November 16, 2005, concerning contracting reforms; Executive Order No. Sixteen of Governor John G. Rowland, promulgated August 4, 1999, concerning violence in the workplace, all of which are incorporated into, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings; and are made a part of this contract.

**COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES  
CONTRACT COMPLIANCE REGULATIONS  
NOTIFICATION TO BIDDERS**

The contract to be awarded is subject to contract compliance requirements mandated by Sections 4a-60 and 4a-60a of the Connecticut General Statutes; and, when the awarding agency is the State, Sections 46a-71(d) and 46a-81i(d) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at Section 46a-68j-21 through 43 of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by Sections 4a-60 and 46a-71(d) of the Connecticut General Statutes.

According to Section 46a-68j-30(9) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to “aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials.” “Minority business enterprise” is defined in Section 4a-60 of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: “(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of Section 32-9n.” “Minority” groups are defined in Section 32-9n of the Connecticut General Statutes as “(1) Black Americans . . . (2) Hispanic Americans . . . (3) persons who have origins in the Iberian Peninsula . . . (4) Women . . . (5) Asian Pacific Americans and Pacific Islanders; (6) American Indians . . .” An individual with a disability is also a minority business enterprise as provided by Section 4a-60g of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of Section 46a-68j-21(11) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder’s qualifications under the contract compliance requirements:

- (a) the bidder’s success in implementing an affirmative action plan;
- (b) the bidder’s success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 of the Administrative Regulations of Connecticut State Agencies, inclusive;
- (c) the bidder’s promise to develop and implement a successful affirmative action plan;
- (d) the bidder’s submission of employment statistics contained in the “Employment Information Form”, indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
- (e) the bidder’s promise to set aside a portion of the contract for legitimate minority business enterprises. See Section 46a-68j-30(10)(E) of the Contract Compliance Regulations.

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**INSTRUCTIONS AND OTHER INFORMATION**

The following BIDDER CONTRACT COMPLIANCE MONITORING REPORT must be completed in full, signed, and submitted with the bid for this contract. The contract awarding agency and the Commission on Human Rights and Opportunities will use the information contained thereon to determine the bidders compliance to Sections 4a-60 and 4a-60a CONN. GEN. STAT., and Sections 46a-68j-23 of the Regulations of Connecticut State Agencies regarding equal employment opportunity, and the bidders’ good faith efforts to include minority business enterprises as subcontractors and suppliers for the work of the contract.

**1) Definition of Small Contractor**

Section 4a-60g CONN. GEN. STAT. defines a small contractor as a company that has been doing business under the same management and control and has maintained its principal place of business in Connecticut for a one year period immediately prior to its application for certification under this section, had gross revenues not exceeding ten million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a nonprofit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision 4a-60g CONN. GEN. STAT.

2) Description of Job Categories (as used in Part IV Bidder Employment Information) (Page 2)

<p><b>MANAGEMENT:</b> Managers plan, organize, direct, and control the major functions of an organization through subordinates who are at the managerial or supervisory level. They make policy decisions and set objectives for the company or departments. They are not usually directly involved in production or providing services. Examples include top executives, public relations managers, managers of operations specialties (such as financial, human resources, or purchasing managers), and construction and engineering managers.</p> <p><b>BUSINESS AND FINANCIAL OPERATIONS:</b> These occupations include managers and professionals who work with the financial aspects of the business. These occupations include accountants and auditors, purchasing agents, management analysts, labor relations specialists, and budget, credit, and financial analysts.</p> <p><b>COMPUTER SPECIALISTS:</b> Professionals responsible for the computer operations within a company are grouped in this category. Examples of job titles in this category include computer programmers, software engineers, database administrators, computer scientists, systems analysts, and computer support specialists</p> <p><b>ARCHITECTURE AND ENGINEERING:</b> Occupations related to architecture, surveying, engineering, and drafting are included in this category. Some of the job titles in this category include electrical and electronic engineers, surveyors, architects, drafters, mechanical engineers, materials engineers, mapping technicians, and civil engineers.</p> <p><b>OFFICE AND ADMINISTRATIVE SUPPORT:</b> All clerical-type work is included in this category. These jobs involve the preparing, transcribing, and preserving of written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; and distributing mail. Job titles listed in this category include telephone operators, payroll clerks, bill and account collectors, customer service representatives, files clerks, dispatchers, shipping clerks, secretaries and administrative assistants, computer operators, mail clerks, and stock clerks.</p>	<p><b>BUILDING AND GROUNDS CLEANING AND MAINTENANCE:</b> This category includes occupations involving landscaping, housekeeping, and janitorial services. Job titles found in this category include supervisors of landscaping or housekeeping, janitors, maids, grounds maintenance workers, and pest control workers.</p> <p><b>CONSTRUCTION AND E TRACTION:</b> This category includes construction trades and related occupations. Job titles found in this category include boilermakers, masons (all types), carpenters, construction laborers, electricians, plumbers (and related trades), roofers, sheet metal workers, elevator installers, hazardous materials removal workers, paperhangers, and painters. Paving, surfacing, and tamping equipment operators; drywall and ceiling tile installers; and carpet, floor and tile installers and finishers are also included in this category. First line supervisors, foremen, and helpers in these trades are also grouped in this category..</p> <p><b>INSTALLATION, MAINTENANCE AND REPAIR:</b> Occupations involving the installation, maintenance, and repair of equipment are included in this group. Examples of job titles found here are heating, ac, and refrigeration mechanics and installers; telecommunication line installers and repairers; heavy vehicle and mobile equipment service technicians and mechanics; small engine mechanics; security and fire alarm systems installers; electric/electronic repair, industrial, utility and transportation equipment; millwrights; riggers; and manufactured building and mobile home installers. First line supervisors, foremen, and helpers for these jobs are also included in the category.</p> <p><b>MATERIAL MOVING WORKERS:</b> The job titles included in this group are Crane and tower operators; dredge, excavating, and lading machine operators; hoist and winch operators; industrial truck and tractor operators; cleaners of vehicles and equipment; laborers and freight, stock, and material movers, hand; machine feeders and offbearers; packers and packagers, hand; pumping station operators; refuse and recyclable material collectors; and miscellaneous material moving workers.</p>
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3) Definition of Racial and Ethnic Terms (as used in Part IV Bidder Employment Information)

<p><u>White</u> (not of Hispanic Origin)- All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.</p> <p><u>Black</u>(not of Hispanic Origin)- All persons having origins in any of the Black racial groups of Africa.</p> <p><u>Hispanic</u>- All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.</p>	<p><u>Asian or Pacific Islander</u>- All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippine Islands, and Samoa.</p> <p><u>American Indian or Alaskan Native</u>- All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.</p>
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# BIDDER CONTRACT COMPLIANCE MONITORING REPORT

## PART I - Bidder Information

(Page 3)

Company Name Street Address City & State Chief Executive	Bidder Federal Employer Identification Number _____ Or Social Security Number _____
Major Business Activity (brief description)	Bidder Identification (response optional/definitions on page 1)  -Bidder is a small contractor. Yes__ No__ -Bidder is a minority business enterprise Yes__ No__ (If yes, check ownership category) Black__ Hispanic__ Asian American__ American Indian/Alaskan Native__ Iberian Peninsula__ Individual(s) with a Physical Disability__ Female__
Bidder Parent Company (If any)	- Bidder is certified as above by State of CT Yes__ No__
Other Locations in Ct. (If any)	- DAS Certification Number _____

## PART II - Bidder Nondiscrimination Policies and Procedures

1. Does your company have a written Affirmative Action/Equal Employment Opportunity statement posted on company bulletin boards? Yes__ No__	7. Do all of your company contracts and purchase orders contain non-discrimination statements as required by Sections 4a-60 & 4a-60a Conn. Gen. Stat.? Yes__ No__
2. Does your company have the state-mandated sexual harassment prevention in the workplace policy posted on company bulletin boards? Yes__ No__	8. Do you, upon request, provide reasonable accommodation to employees, or applicants for employment, who have physical or mental disability? Yes__ No__
3. Do you notify all recruitment sources in writing of your company's Affirmative Action/Equal Employment Opportunity employment policy? Yes__ No__	9. Does your company have a mandatory retirement age for all employees? Yes__ No__
4. Do your company advertisements contain a written statement that you are an Affirmative Action/Equal Opportunity Employer? Yes__ No__	10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors? Yes__ No__ NA__
5. Do you notify the Ct. State Employment Service of all employment openings with your company? Yes__ No__	11. If your company has apprenticeship programs, do they meet the Affirmative Action/Equal Employment Opportunity requirements of the apprenticeship standards of the Ct. Dept. of Labor? Yes__ No__ NA__
6. Does your company have a collective bargaining agreement with workers? Yes__ No__ 6a. If yes, do the collective bargaining agreements contain non-discrimination clauses covering all workers? Yes__ No__ 6b. Have you notified each union in writing of your commitments under the nondiscrimination requirements of contracts with the state of Ct? Yes__ No__	12. Does your company have a written affirmative action Plan? Yes__ No__ If no, please explain.  13. Is there a person in your company who is responsible for equal employment opportunity? Yes__ No__ If yes, give name and phone number. _____ _____

## Part III - Bidder Subcontracting Practices

1. Will the work of this contract include subcontractors or suppliers? Yes__ No__  1a. If yes, please list all subcontractors and suppliers and report if they are a small contractor and/or a minority business enterprise. (defined on page 1 / use additional sheet if necessary)	1b. Will the work of this contract require additional subcontractors or suppliers other than those identified in 1a. above? Yes__ No__
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PLEASE COMPLETE REVERSE SIDE

**PART IV - Bidder Employment Information**

Date:

(Page 4)

JOB CATEGORY	OVERALL TOTALS	WHITE (not of Hispanic origin)		BLACK (not of Hispanic origin)		HISPANIC		ASIAN or PACIFIC ISLANDER		AMERICAN INDIAN or ALASKAN NATIVE	
		Male	Female	Male	Female	Male	Female	Male	Female	male	female
Management											
Business & Financial Ops											
Computer Specialists											
Architecture/Engineering											
Office & Admin Support											
Bldg/ Grounds Cleaning/Maintenance											
Construction & Extraction											
Installation , Maintenance & Repair											
Material Moving Workers											
TOTALS ABOVE											
Total One Year Ago											
FORMAL ON THE JOB TRAINEES (ENTER FIGURES FOR THE SAME CATEGORIES AS ARE SHOWN ABOVE)											
Apprentices											
Trainees											

**PART V - Bidder Hiring and Recruitment Practices**

1. Which of the following recruitment sources are used by you? (Check yes or no, and report percent used)				2. Check (X) any of the below listed requirements that you use as a hiring qualification  (X)		3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination	
SOURCE	YES	NO	% of applicants provided by source				
State Employment Service					Work Experience		
Private Employment Agencies					Ability to Speak or Write English		
Schools and Colleges					Written Tests		
Newspaper Advertisement					High School Diploma		
Walk Ins					College Degree		
Present Employees					Union Membership		
Labor Organizations					Personal Recommendation		
Minority/Community Organizations					Height or Weight		
Others (please identify)					Car Ownership		
					Arrest Record		
					Wage Garnishments		

Certification (Read this form and check your statements on it CAREFULLY before signing). I certify that the statements made by me on this BIDDER CONTRACT COMPLIANCE MONITORING REPORT are complete and true to the best of my knowledge and belief, and are made in good faith. I understand that if I knowingly make any misstatements of facts, I am subject to be declared in non-compliance with Section 4a-60, 4a-60a, and related sections of the CONN. GEN. STAT.

(Signature)	(Title)	(Date Signed)	(Telephone)
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**Affidavit for Certification of Subcontractors  
as Minority Business Enterprises (MBE)**  
*(to be completed only for subcontractors not certified as MBE's  
by the Department of Administrative Services)*

To document the **Agood faith efforts@** of the below named state contractor to include minority business enterprises as subcontractors (for services and/or material suppliers) on the state contract also identified below, I certify that the following subcontractors meet the criteria for minority business enterprises set forth in CONN. GEN. STAT. § 4a-60(b). I attest that each named minority business enterprise will be contracted by the named state contractor to participate on the identified state contract as a subcontractor.

The subcontractors being identified to be bona fide minority business enterprises are:

Subcontractor Name	Complete Address	Subcontractor's Principal Officer's Name

(use additional sheets as necessary)

I further certify and affirm that I have read and understand the contract compliance requirements codified at CONN. GEN. STAT. Sections 4a-60 & 46a-71(d), and the Contract Compliance Regulations codified at Sections 46a-68j-21 through 43 of the Administrative Regulations of Connecticut State Agencies. I also understand that any false statements made herein are punishable by law.

\_\_\_\_\_ state contractor legal name

\_\_\_\_\_ type full printed name and title of official  
submitting this affidavit on behalf of  
contractor

\_\_\_\_\_ state contract number

\_\_\_\_\_ signature of official

\_\_\_\_\_ state contract awarding agency

\_\_\_\_\_ date of affidavit

Subscribed and sworn to before me, this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

\_\_\_\_\_  
Notary Public/Commissioner of the Superior Court  
My Commission expires \_\_\_\_\_

**STATE OF CONNECTICUT  
COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES**

**NOTICE CONCERNING CONTRACT COMPLIANCE RESPONSIBILITIES**

TO ALL LABOR UNIONS, WORKER-S REPRESENTATIVES AND VENDORS:

Any contract this contractor has with the State of Connecticut or political subdivisions of the state other than municipalities shall be performed in accordance with CONN. GEN. STAT. Section 4a-60 and Section 4a-60a.

This means that this contractor:

1. Agrees to provide the Commission on Human Rights and Opportunities (CHRO) with any information concerning this contractor's employment practices and procedures which relates to our responsibilities under CONN. GEN. STAT. Sections 4a-60 or 46a-56 or Section 4a-60a.; and
2. Agrees to include the provisions of CONN. GEN. STAT. Section 46a-60(a) and Section 4a-60a in each and every subcontract and purchase order and to take whatever action the CHRO deems necessary to enforce these provisions.

WITH REGARD TO RACE, COLOR, RELIGIOUS CREED, AGE, MARITAL STATUS, NATIONAL ORIGIN, ANCESTRY, SEX, MENTAL RETARDATION OR PHYSICAL DISABILITY, this means that this contractor:

1. Shall not discriminate or permit discrimination against anyone;
2. Shall take affirmative action so that persons applying for employment are hired on the basis of job-related qualifications and that employees once hired are treated without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation or physical disability, unless the contractor can show that the disability prevents performance of the work involved;
3. Shall state in all advertisements for employees that it is an affirmative action-equal opportunity employer@;
4. Shall comply with CONN. GEN. STAT. Sections 4a-60, 46a-68e and 46a-68f and with each regulation or relevant order issued by the CHRO under CONN. GEN. STAT. Sections 46a-56, 46a-68e and 46a-68f; and
5. Shall make, if the contract is a public works contract, good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials.

WITH REGARD TO SEXUAL ORIENTATION, WHICH INCLUDES HOMOSEXUALITY, BISEXUALITY AND HETEROSEXUALITY:

1. The contractor will not discriminate or permit discrimination against anyone, and employees will be treated without regard to their sexual orientation once employed; and
2. The contractor agrees to fully comply with Section 4a-60a and each regulation or relevant order issued by the CHRO under CONN. GEN. STAT. Section 46a-56.

Persons having questions about this notice or their rights under the law are urged to contact the:

**COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES  
DIVISION OF AFFIRMATIVE ACTION, MONITORING & CONTRACT COMPLIANCE**

21 Grand Street  
Hartford, Connecticut 06106  
(860) 541-3400

COPIES OF THIS NOTICE SHALL BE POSTED IN CONSPICUOUS PLACES  
AVAILABLE TO ALL EMPLOYEES AND APPLICANTS FOR EMPLOYMENT

# ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

PRODUCER	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
INSURED	INSURERS AFFORDING COVERAGE INSURER A: INSURER B: INSURER C: INSURER D: INSURER E:	NAIC #

## COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
		<b>GENERAL LIABILITY</b> <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Owner's & Contractor's Prot. <hr/> GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC				EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
		<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS				COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
		<b>GARAGE LIABILITY</b> <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT \$ OTHER THAN EA ACC \$ AUTO ONLY: AGG \$
		<b>EXCESS/UMBRELLA LIABILITY</b> <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE RETENTION \$				EACH OCCURRENCE \$ AGGREGATE \$ \$ \$ \$
		<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Yes If yes, describe under SPECIAL PROVISIONS below				<input checked="" type="checkbox"/> WC STATU-TORY LIMITS <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 100,000 E.L. DISEASE - EA EMPLOYEE \$ 100,000 E.L. DISEASE - POLICY LIMIT \$ 500,000
		<b>OTHER</b>				

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS**

(Indicate the Project and Project number in this space.)

The State of Connecticut is endorsed as an Additional Insured on all of the above policies except Auto-Mobile Liability and Workers' Compensation. If Builders Risk is indicated, The State of Connecticut is endorsed as Loss Payee

## CERTIFICATE HOLDER

## CANCELLATION

State of Connecticut Department of Children and Families 505 Hudson Street Hartford, CT 06106	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL <u>30</u> DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE
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## Agreement Between Owner and Contractor

### Owner

Department of Children and Families  
Connecticut Children's Place  
36 Gardner Street  
East Windsor, CT 06088

### Contractor

### Project

Basement Offices HVAC System Renovations  
Project # 12-RVHC-052

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The Owner and the Contractor for the considerations named herein as set forth below:

1. **Agreement Date:**
2. **Contract Sum:**
3. **Payment Schedule:**  
Owner will pay Contractor monthly for work completed and stored, less 10% retention. Retention will be released 30 days after completion.
4. **Documentation required for payment:**  
Application for Payment (detailed invoice) of work completed to date. Waiver of lien for the amount of payment due. Supporting documents from suppliers and subcontractors. Inspection reports, signed approving work performed (where applicable). Signed change orders.
5. **Completion Schedule:** Start date: See Notice to Proceed  
Completion Date: Determined by the Notice to Proceed  
5a. ~~Early Completion, the Owner will pay the Contractor a bonus of:~~  
~~----- per calendar day~~  
  
5b. Late Completion, the Owner will penalize the Contractor:  
\$350 per calendar day
6. **Scope of Work:**  
Install insulated metal faced panels, fan, motorized louvers, door, and boiler breeching in accordance with all Plans, Specifications and Addenda.
7. **Work NOT to be performed:**  
N/A

8. **Licenses, permits and bonds to be supplied and paid by the as follows:**  
Contractor to acquire and pay for permits and bonds related to the work to be performed.
9. **Warranty:**  
Contractor's Labor and Material warranty, 18 months.  
Manufacturer's warranty, where applicable.
10. **Insurance Requirements:**  
Certificate of Insurance, naming the owner as ADDITIONAL INSURED.  
Worker's Compensation and General Liability in the amounts as stated in the project specifications.  
Vehicle Coverage as stated in the project specifications.
11. **General Provisions:** Contractor is to include all labor and approved materials, appliances and services of every kind necessary for the execution of work. Contractor shall re-execute any work that fails to conform to the requirements of the contract. Contractor will remove all of his construction debris from the site and leave premises in broom-cleaned condition. All work shall be completed in a workmanship like manner and in accordance with all codes and other applicable laws. To the extent required by law, all work shall be performed by individuals duly licensed and authorized by law to perform said work. Contractor has the right to let other contracts in connection with the work contracted for so long as the comply with all the requirements of the documents. Contractor shall adequately protect the work, adjacent property and the public and shall be responsible for any damages or injury due to his act or neglect. Change Orders shall be in writing and signed by both parties to this agreement.
12. Contract Documents include this Agreement and others as follows:  
Plans dated  
Specifications dated  
Addendum

13. See attachment(s):  yes  no

Owner

Contractor:

By: \_\_\_\_\_ Date \_\_\_\_\_ By: \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Name and Title

## **IMPORTANT**

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

## **DISCLAIMER**

The Certificate of Insurance on the reverse side of this form does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.



## LABOR AND MATERIAL BOND

### Know all men by these presents

**THAT** \_\_\_\_\_ of the  
Town of \_\_\_\_\_, Country of \_\_\_\_\_ and  
State of \_\_\_\_\_, as Principal (hereinafter called the Principal), and \_\_\_\_\_

---

(a surety company authorized to transact business in the State of Connecticut), as Surety (hereinafter called the Surety), are held and firmly bound unto the State of Connecticut (hereinafter called the Obligee) in the full penal sum of \_\_\_\_\_  
(\$ \_\_\_\_\_) Dollars, lawful money of the United States, to be paid to said State of Connecticut, to the which payment well and truly to be made and done, the said Principal binds himself, his heirs, executors, administrators and assigns (or itself, its successors and assigns), and the said Surety binds itself its successors and assigns jointly and severally firmly by these presents.

Signed, sealed and delivered this \_\_\_\_\_ day of \_\_\_\_\_ A. D. 20 \_\_\_\_\_

### THE CONDITION OF THIS OBLIGATION IS SUCH THAT

*WHEREAS* said Principal will enter into a certain written contract with said Obligee, to be dated the \_\_\_\_\_ day of \_\_\_\_\_ A. D. 20 \_\_\_\_\_ which written contract shall provide for the following:

which contract, including any hereafter made extension, modification or alteration thereof is hereby referred to, incorporated in and made a part of this bond as though herein fully set forth.

**NOW, THEREFORE**, if the said Principal shall promptly pay for all materials furnished and labor supplied or performed in the prosecution of the work included in and under the aforesaid contract, as it may be extended, modified or altered, whether or not the material or labor enters into and becomes a component part of the real asset, then this obligation shall be null and void, otherwise it shall remain and be in full force and effect.

Any party, whether a subcontractor or otherwise, who furnishes materials or supplies or performs labor or services in the prosecution of the work under said contract, as it may be extended, modified or altered, and who is not paid therefore, may bring suit on this bond in the name of the person suing and prosecute the same to final execution and judgment for such sum or sums as may be justly due.

***IN TESTIMONY WHEREOF***, the said Principal has hereunto set his / its hand and seal, and the said Surety has caused this instrument to be signed by its attorney in fact and its corporate seal to be hereunto affixed, the day and year first written.

**Witnesses as to Principal**

SEAL

\_\_\_\_\_  
\_\_\_\_\_

**,Its Duly Authorized**

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_

\_\_\_\_\_  
(Print Name)

**Witnesses as to Surety**

SEAL

\_\_\_\_\_

**by \_\_\_\_\_  
Its attorney in fact**

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_

\_\_\_\_\_  
(Print Name)

## PERFORMANCE BOND

### Know all men by these presents

**THAT** \_\_\_\_\_ of the  
Town of \_\_\_\_\_, Country of \_\_\_\_\_ and  
State of \_\_\_\_\_, as Principal (hereinafter called the Principal), and \_\_\_\_\_

---

(a surety company authorized to transact business in the State of Connecticut), as Surety (hereinafter called the Surety), are held and firmly bound unto the State of Connecticut (hereinafter called the Obligee) in the full penal sum of \_\_\_\_\_  
(\$ \_\_\_\_\_) Dollars, lawful money of the United States, to be paid to said State of Connecticut, to the which payment well and truly to be made and done, the said Principal binds himself, his heirs, executors, administrators and assigns (or itself, its successors and assigns), and the said Surety binds itself its successors and assigns jointly and severally firmly by these presents.

Signed, sealed and delivered this \_\_\_\_\_ day of \_\_\_\_\_ A. D. 20 \_\_\_\_\_

#### THE CONDITION OF THIS OBLIGATION IS SUCH THAT

*WHEREAS* said Principal will enter into a certain written contract with said Obligee, to be dated the \_\_\_\_\_ day of \_\_\_\_\_ A. D. 20 \_\_\_\_\_ which written contract shall provide for the following:

which contract, including any hereafter made extension, modification or alteration thereof is hereby referred to, incorporated in and made a part of this bond as though herein fully set forth.

**NOW, THEREFORE**, if the said Principal shall well and truly keep, perform and execute all the terms, conditions and stipulations of said contract, as it may be extended, modified or altered, according to its provisions on his or its part to be kept and performed or shall indemnify and reimburse the Obligee for any loss that it may suffer through the failure of the Principal to faithfully observe and perform each and every obligation and duty imposed upon the Principal by the said contract, as it may be extended,

modified or altered, at the time and in the manner therein specified, then this obligation shall be null and void, otherwise it shall remain and be in full force and effect.

Any such extension, modification or alteration or any forbearance on the part of either the Obligee or the Principal, one to the other, shall not in any way release the Principal and/or the Surety, their heirs, executors, administrators, successors or assigns from liability hereunder, notice to the Surety of any such extension, modification, alteration or forbearance being hereby specifically and absolutely waived.

***IN TESTIMONY WHEREOF***, the said Principal has hereunto set his / its hand and seal, and the said Surety has caused this instrument to be signed by its attorney in fact and its corporate seal to be hereunto affixed, the day and year first written.

**Witnesses as to Principal**

SEAL

\_\_\_\_\_  
\_\_\_\_\_

**,Its Duly Authorized**

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_

\_\_\_\_\_  
(Print Name)

**Witnesses as to Surety**

SEAL

\_\_\_\_\_

**by \_\_\_\_\_  
Its attorney in fact**

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_

\_\_\_\_\_  
(Print Name)

**General Conditions of the Contract for Construction  
Department of Public Works  
State of Connecticut**

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**Article 1**  
**DEFINITIONS**

Whenever the following terms, or pronouns in place of them, are used the intent and meaning shall be as follows:

**1.1 ADDITIONAL OR DELETED WORK:** Work required by the Department that, in the judgment of the Commissioner, involves any addition to, deduction from, or modification of the Work required by the Contract Documents.

**1.2 AGENCY:** The (User) Agency of the State of Connecticut having administrative authority of the facility in which the Work is being performed.

**1.3 APPLICATION FOR PAYMENT, PARTIAL PAYMENT OR REQUISITION:** Contractor's certified request for payment for completed portions of the Work and, if the Contract so provides, for materials or equipment suitably stored pending their incorporation into the Work.

**1.4 ARCHITECT OR ENGINEER:** An individual, partnership, firm, corporation or other business organization under contract with the Owner, commissioned to prepare Contract Drawings and specifications, to advise the Owner and in certain cases, to perform regular inspections during construction and when authorized to perform the duties of the Construction Administrator.

**1.5 BASE BID:** Monetary value stated in the Bid Proposal form as the sum for which the bidder offers to perform the Work described in the Bidding Documents, exclusive of adjustments for Supplemental Bids.

**1.6 BID BOND:** Form of bid security executed by the Bidder as Principal and by a Surety to guarantee that the Bidder will enter into a Contract within a specified time and furnish any required bond as mandated by Connecticut General Statute Section 4b-92.

**1.7 BIDDER:** An individual, partnership, firm, corporation or other business organization submitting a Bid on the Bid Proposal Form for the Work contemplated.

**1.8 BIDDING DOCUMENTS:** Collectively, the Bidding Requirements and the proposed Contract Documents, including any addenda issued prior to receipt of Bids.

**1.9 BID OR BID PROPOSAL FORM:** A complete and duly signed proposal to perform Work (or a designated portion thereof) for a stipulated sum submitted in accordance with the Bidding Documents.

**1.10 BID SECURITY:** Certified check or Bid Bond submitted with Bid Proposal Form, which provides that the Bidder, if awarded the Contract, will execute such Contract in accordance with the requirements of the Bidding Documents.

**1.11 BUILDER'S RISK INSURANCE:** A specialized form of property insurance which provides coverage for loss or damage to the Work pursuant to the Contract Documents.

**1.12 CASH ALLOWANCE:** An amount established in the Contract Documents for inclusion in the Contract Sum to cover the cost of prescribed items not specified in detail, and as shown in the Allowance Schedule.

**1.13 CERTIFICATE of COMPLETION:** A document issued by the Construction Administrator to the Owner stating that the Contractor has met all contractual obligations.

**1.14 CERTIFICATE of COMPLETION and ACCEPTANCE:** A document issued by the Owner to the Contractor stating that all Work has been completed and that the Work is accepted by the Owner.

**1.15 CERTIFICATE of COMPLIANCE:** A document issued to the Owner by the design professional stating that for the portion of the project completed, either the design portion or the construction portion, has been performed in substantial compliance with all applicable building codes

**1.16 CERTIFICATE OF OCCUPANCY:** Document issued by the authority having jurisdiction certifying that all or a designated portion of a building is approved for its designated use.

**1.17 CERTIFICATE OF SUBSTANTIAL COMPLETION:** A document prepared by the Architect and approved by the Owner on the basis of an inspection stating :

**1.17.1** that the Work, or a designated portion thereof, is determined to be Substantially Complete;

**1.17.2** the date of Substantial Completion;

**1.17.3** the responsibilities of the Owner and the Contractor for security maintenance, heat, utilities, damage to the Work and insurance; and

**1.17.4** the time within which the Contractor shall complete the remaining work .

**1.18 CHANGE ORDER:** Written authorization signed by the Owner, authorizing a modification in the Work, an adjustment in the Contract Sum, or an adjustment in the Contract Time.

**1.19 COMMISSIONER:** The State of Connecticut, Department of Public Works (DPW) Commissioner acting di-

rectly or through specifically authorized DPW personnel or agent(s) having authority to perform duties defined in Article 25.

**1.20 CONSTRUCTION ADMINISTRATOR:** An individual, partnership, firm, corporation or other business organization, under contract or employed by the Owner commissioned and/or authorized to oversee the fulfillment of all requirements of the Contract Documents. The authorized Construction Administrator may be a Department of Public Works Assistant Project Manager, Department of Public Works Project Manager, a Clerk of the Works, an Architect, a Consulting Architect, a Consulting Construction Administrator, a Consulting Engineer etc. or any other designee as authorized and identified by the Owner.

**1.21 CONSTRUCTION CHANGE DIRECTIVE:** A written authorization signed by the Owner, directing a modification in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum, Contract Time or both.

**1.22 CONTRACT DOCUMENTS OR CONTRACT:** The Agreement between Owner and Contractor, Conditions of the Contract (General Conditions, Supplementary Conditions, General Requirements and other Conditions), Drawings, Specifications, and Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract, all of which shall constitute the Contract.

**1.23 CONTRACTOR OR GENERAL CONTRACTOR:** An individual, partnership, firm or Corporation, under direct contract with the Department of Public Works, responsible for performing the Work under the Contract Documents. Whenever the words "Contractor" or "General Contractor" are used it shall be understood to mean Contractor.

**1.24 CONTRACTOR'S LIABILITY INSURANCE:** Insurance purchased and maintained by the Contractor that insures the Contractor for claims for property damage, bodily injury or death.

**1.25 CONTRACT START DATE OR DATE OF COMMENCEMENT OF THE WORK:** The date, specified by the Owner in the Notice to Proceed, on which the Contractor is required to start the Work.

**1.26 CONTRACT SUM:** The sum stated in the Contract, which is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

**1.27 CONTRACT TIME:** The period of time allotted in the Contract Documents for Substantial Completion of the

Work, including authorized adjustments thereto. The days specified, calendar or working days, are stipulated in the Bidding Documents.

**1.28 DAY:** Whenever the word Day is used it shall be understood to mean calendar day or working day as stated on the Bidding Documents, unless stated otherwise.

**1.29 DEPARTMENT OF PUBLIC WORKS PROJECT MANAGER or PROJECT MANAGER:** The individual employed by the Owner, designated and authorized by the Commissioner, to be responsible for the overall management and oversight of the Project, and to represent the (User) Agency.

**1.30 EQUAL (S)::** A replacement for the specified material, device, procedure, equipment, etc., which has been determined by the Architect and the Owner to be substantially identical to the first listed manufacturer or first listed procedure specified in terms of cost, quality and performance for the Project. The Equal does not constitute a modification in the scope of Work, the Schedule or Architect/Engineer's design intent of the specified material, device, procedure, equipment, etc.

**1.31 FINAL ACCEPTANCE:** The Owner's written approval and acceptance of the Work issued to the Contractor upon written certification by the Architect of Final Completion.

**1.32 FINAL COMPLETION:** A written statement by the Architect to the Owner that the Work has been completed in accordance with the terms and conditions of the Contract Documents.

**1.33 FINAL INSPECTION:** Review of the Work by the Architect and Owner to determine whether Final Completion has been achieved.

**1.34 FINAL PAYMENT:** The last payment made by the Owner to the Contractor, made after notice of the Final Acceptance. Payment shall include the entire unpaid balance of the Contract Sum as adjusted by Modifications.

**1.35 GENERAL CONDITIONS:** The General Conditions of the Contract for Construction, part of Division 0 of the Specifications.

**1.36 GENERAL REQUIREMENTS:** That part of the Contract Documents entitled General Requirements, which is Division 1.

**1.37 LIQUIDATED DAMAGES:** A sum established in a Contract, usually as a fixed sum per day, as the predeter-

mined measure of damages to be paid to the Owner due to the Contractor's failure to complete the Work within the Contract Time.

**1.38 LUMP SUM:** An item or category priced as a whole rather than broken down into its elements.

**1.39 MINOR CHANGES IN THE WORK:** Changes in the Work not involving an adjustment in the Contract Sum or an extension of the Contract Time and not inconsistent with the intent of the Contract Documents, which shall be affected by written order issued by the Architect.

**1.40 MODIFICATION OR AMENDMENT:**

**1.40.1** A written change to the Contract Documents.

**1.40.2** A Change Order.

**1.40.3** A Construction Change Directive.

**1.40.4** Supplemental Instructions for minor changes in the Work and/or additional instructions to the Work.

**1.41 NOTICE TO BIDDER:** A notice contained in the Bidding Document informing prospective Bidders of the opportunity to submit Bids on a Project.

**1.42 NOTICE TO PROCEED:** Written notice, issued by the Commissioner or the Commissioner's authorized representative, to the Contractor authorizing the Contractor to proceed with the Work and establishing the date for commencement of the Contract Time.

**1.43 OWNER OR DEPARTMENT:** The State of Connecticut, Department of Public Works acting through its Commissioner or specifically authorized Department personnel or agent.

**1.44 PAYMENT BOND, LABOR BOND OR MATERIAL BOND:** A bond in which the Contractor and the Contractor's surety guarantee to the Owner that the Contractor will pay for labor and materials furnished for use in the performance of the Contract, as required by Connecticut General Statutes Section 49-41.

**1.45 PERFORMANCE BOND OR SURETY BOND:** A bond in which the Contractor and the Contractor's surety guarantee to the Owner that the Work will be performed in accordance with the Contract Documents, as required by Connecticut General Statutes Section 41.

**1.46 PERFORMANCE SPECIFICATION:** A description of the desired results or performance of a product, material, assembly, procedure, or a piece of equipment with criteria for identifying the standard.

**1.47 PLANS OR DRAWINGS:** All drawings or reproductions of drawings pertaining to the construction of the Work contemplated and its appurtenances.

**1.48 PROJECT:** The total construction of which the Work performed under the Contract Documents may be the whole or a part.

**1.49 PROJECT MANUAL:** The set of documents assembled for the Work which includes, but is not limited to, Contract Documents, Bidding Requirements, Sample Forms, Conditions of the Contract, General Requirements and the Specifications.

**1.50 PROPRIETARY SPECIFICATION:** A specification that describes a product, procedure, function, material, assembly, or piece of equipment by trade name and/or by naming the manufacturer(s) or manufacturer's procedure, exact model number, item, etc., of those products acceptable to the Owner.

**1.51 RECORD DOCUMENTS OR AS-BUILT DRAWINGS:** Construction Drawings revised to show all significant Modifications made during the construction process.

**1.52 SCHEDULE:** A Critical Path Method (CPM) or Construction Schedule as required by the Contract Documents which shall be a diagram, graph or other pictorial or written schedule showing all events expected to occur and operations to be performed and indicating the contract time, start dates, durations and finish dates and their relationship to Substantial Completion and Final Completion of the Work, rendered in a form permitting determination of the optimum sequence and duration of each operation.

**1.53 SCHEDULE OF VALUES:** A document furnished by the Contractor to the Architect and Owner stating the portions of the Contract Sum allocated to the various portions of the Work, which is to be used for reviewing the Contractor's Applications for Payment.

**1.54 SECONDARY SUBCONTRACTOR:** An individual, partnership, firm or Corporation under direct contract with the Subcontractor to the General Contractor.

**1.55 SHOP DRAWINGS:** Drawings provided to Architect and Owner by a Contractor that illustrate construction, materials, dimensions, installation, and other pertinent information for the incorporation of an element or item into the construction as detailed Contract Documents.

**1.56 SPECIFICATIONS:** The description, provisions and other requirements pertaining to the method and manner of



performing the Work and/or to the quantities and quality of materials to be furnished under the Contract.

**1.57 SUBCONTRACTOR:** A person, partnership, corporation or other business organization under direct contract with the Contractor supplying labor and/or materials for the Work at the site of the Project.

**1.58 SUBMITTALS:** Documents including, but not limited to, samples, manufacturer's data, shop drawing, or other such items submitted to the Owner and Architect by the Contractor for the purpose of approval or other action, as required by the Contract Documents.

**1.59 SUBSTANTIAL COMPLETION:** The stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use.

**1.60 SUBSTITUTION:** A material, device, procedure, equipment, etc., which has been determined by the Architect and the Owner to be not an Equal to the first manufacturer or procedure listed in the Specification in terms of cost, quality and performance but which may be used in place of that item specified. The Substitution constitutes a modification in the Work, the Schedule or the Architect/Engineer's design intent of the specified material, device, procedure, equipment, etc.

**1.61 SUPPLEMENTAL BID:** The monetary value stated in the Bid to be added to the amount of the Base Bid if the corresponding Work, as described in the Bidding Documents, is accepted.

**1.62 SUPPLEMENTARY CONDITIONS:** An extension of the General Conditions applicable to any and all portions of Work under the Contract Documents.

**1.63 THRESHOLD LIMIT BUILDING:** Any proposed (new) structures or additions as defined by the Connecticut General Statutes Section 29-276b.

**1.64 UNIT PRICE:** The monetary value stated by the Owner or the Contractor, as a price per unit of measure for materials or services as described in the Contract Documents and/or Bidding Documents.

**1.65 WORK:** The construction and services required by the Contract Documents, and including all labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

## Article 2 CONDITIONS OF WORK

**2.1** The Contractor shall carefully examine and study the conditions under which the Work is to be performed and the site of the Work, and compare the Contract Documents with each other and to information furnished by the Owner including but not limited to the plans and specifications, the form of the Contract, General Conditions, Supplementary Conditions, General Requirements, Bonds and all other Contract Documents associated with the Work.

**2.2** The Contractor shall report to the Construction Administrator all errors, inconsistencies or omissions discovered. The Contractor shall not be liable to the Owner for damage resulting from errors, inconsistencies or omissions in the Contract Documents unless the Contractor recognized such errors, inconsistencies or omission and failed to report it to the Construction Administrator. If the Contractor performs any actions or construction activity knowing it involves an error, inconsistency or omission in the Contract Documents without notice to the Construction Administrator, the Contractor shall assume responsibility for such performance and related costs for the correction and shall not be allowed to submit any claim related to error, inconsistencies or omission.

**2.3** The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Construction Administrator at once; and it will be assumed that the Contractor has been satisfied as to all requirements of the Contract Documents. Any deterrent conditions at the site of the Work which are obvious and apparent upon examination of the site but are not indicated on the plans shall be corrected by the Contractor without additional compensation.

**2.4** In performing the Work, the Contractor must employ such methods or means as will not cause any interruption of or interference with the Work of any other Contractor, nor any inordinate disruption with the normal routine of the Owner, Institution or Agency operating at the site.

**2.5** No claims for additional compensation will be considered when additional costs result from conditions made known to, discovered by, or which should have been discovered by, the Contractor prior to Contract signing.

**2.6** The Contractor shall perform the Work in accordance with the Contract Documents and approved submittals pursuant to Article 5.

**Article 3**  
**CORRELATION OF CONTRACT DOCUMENTS**

**3.1** The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. Where discrepancies of conflict occur in the Contract Documents the following order of precedence shall be utilized:

- 3.1.1** Amendments and addenda shall take precedence over previously issued Contract Documents.
- 3.1.2** The General Requirements take precedence over the Supplementary Conditions.
- 3.1.3** The Supplementary Conditions take precedence over the General Conditions.
- 3.1.4** The General Requirements take precedence over the General Conditions.
- 3.1.5** The Specifications shall take precedence over the Plans.
- 3.1.6** Stated dimensions shall take precedence over scaled dimensions.
- 3.1.7** Large-scale detail drawings shall take precedence over small-scale drawings.
- 3.1.8** The schedules contained in the Contract Documents shall take precedence over other data on the Plans.

**3.2** Neither party to the Contract shall take advantage of any obvious error or apparent discrepancy in the Contract Documents. The Contractor shall give immediate written notification of any error or discrepancy discovered to the Construction Administrator, who shall take the necessary actions to obtain such corrections and interpretations as may be deemed necessary for the completion of the Work in a satisfactory and acceptable manner. The Contractor shall then promptly proceed under the direction of the Owner and the provisions of Article 13. The Contractor's failure to provide immediate notice shall mean the Contractor will not be entitled to any additional compensation, either monetary or contract time adjustment, with respect to any discrepancy.

**3.3** Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

**3.4** Organization of the Specifications into divisions, sections and articles, and arrangement of drawings, shall not control the Contractor in dividing the Work among Subcon-

tractors or in establishing the extent of Work to be performed by any trade.

**3.5** Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

**Article 4**  
**COMMENCEMENT AND PROGRESS OF WORK**

**4.1** The Work shall start upon the date given in the Notice to Proceed. The Contractor shall complete all the Work necessary for Final Completion, including but not limited to Substantial Completion, Contract close-out, testing and demonstration of all systems as required for acceptance, punchlist Work, training and submission of Record Documents, manuals, guarantees and warranties as stated in the Bidding Document.

**4.2** Time is of the essence with respect to the Contract Time. By executing the Contract, the Contractor confirms and agrees that the Contract Time is a reasonable period to perform the Work. The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. The Contractor may, at his discretion, plan to complete the work and achieve Substantial Completion in less time than the Contract Time.

**4.3** The Contractor's early completion schedule notwithstanding, the Owner reserves the right to order Modifications to the Work in accordance with Article 13 at any time during the Contract Time.

**4.4** The Contractor shall not be entitled to costs for delay due to Owner ordered Modifications or any other circumstances for the period of time between the Contractor's elected early completion and the end of the Contract Time. Costs include, but are not limited to, delays extended home or field office costs, supervisory and management costs incurred in performance of the Work. Early completion of the Work shall not merit additional compensation.

**4.5** If the Contractor is delayed at any time in the progress of Work by acts of God such as fire or flood or any action, injunction or stop order issued by any court, judge or officer of the court or any other court action beyond the Owner's control, then the Contract Time may be extended by Change Order for such reasonable time as demonstrated by the Contractor's Schedule and as the Owner may determine that such event has delayed the Work. In any event, the granting of an extension of time shall be solely within the discretion of the Owner.

**4.6** Except as otherwise may be provided herein, extensions of time shall be the Contractor's sole remedy for such delay. No payment or compensation of any kind shall be made to the Contractor for damages because of hindrance in the orderly progress of Work caused by the aforesaid causes.

**4.7** The Contractor acknowledges that the Contract amount includes and anticipates any and all delays, whether avoidable or unavoidable, from said orders, which may issue from any court, judge, court officer, or act of God, and that such delays shall not, under any circumstances, be construed as compensable delays.

**4.8** Any extension of the Contract Time shall be by Change Order pursuant to Article 13.

**Article 5**  
**SUBMITTALS, PRODUCT DATA, SHOP**  
**DRAWINGS AND SAMPLES**

**5.1** Contractor shall review, approve and submit to the Construction Administrator all submittals including but not limited to Product Data, Shop Drawing and Sample Manufacturers, with such promptness as to cause no delay in the Work.

**5.2** Correction or approval of such submittals, Shop Drawings, Product Data sample will be made with reasonable promptness by the Architect. Approval will be general only and shall not relieve the Contractor from responsibility for errors in dimensions, for construction and field coordination of the Work or for any departure from the Contract Documents unless such departure has received the Owner's written approval.

**5.3** No Work governed by such drawings, schedules or samples shall be fabricated, delivered or installed until approved by the Architect.

**5.4** No damages for delays or time extensions will be granted even if approvals deviate from the approved Schedule.

**Article 6**  
**SEPARATE CONTRACTS**

**6.1** The Owner reserves the right to perform Work in con-

nection with the Contract with the Owner's own forces, or to let separate contracts relating to the Contract (Project) site or in connection with work on adjoining sites. In such cases, the Contractor shall afford such parties reasonable opportunity for storage of materials and equipment and coordinate and connect the Work with the work on adjoining sites or other projects, and shall fully cooperate with such parties in the matter required under Article 7 herein.

**6.2** Contractors working in the same vicinity shall cooperate with one another and, in case of dispute, decision of the Owner shall be final and binding to all Contractors involved, including Contractors under separate Contracts.

**6.3** The Contractor shall assume all liability, financial or otherwise, in connection with this Contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience or delay which the Contractor may cause other Contractors. If the Contractor experiences a loss because of the presence and operations of other Contractors working adjacent to or within the limits of the same project, then as between the Owner and the Contractor, the Contractor shall bear such loss.

**6.4** Insofar as possible, the Contractor shall arrange the Work and shall place and dispose of the materials being used so as not to interfere with the operations of other Contractors adjacent to or within the limits of the same project. The Contractor shall join its Work with that of others in an acceptable manner, and perform the Work in proper accordance with that of the others.

**6.5** In no event shall the Owner be responsible for any claim or damages that are the result of the Contractor's failure to coordinate the work with any Contractor or Subcontractor.

**Article 7**  
**COOPERATION OF TRADES**

**7.1** The Contractor shall be responsible for and shall control all activities of their Subcontractors. The Subcontractors shall consult and cooperate with one another. Each Subcontractor shall furnish all necessary information to other Subcontractors and shall lay out and install their own Work so as to avoid any delays or interference with the Work of others.

**7.2** Any cost or changes, cutting and/or repairing, made necessary by the failure to observe the above requirements shall be borne by the party or parties responsible for such failure or neglect or their faulty Work installed.

**Article 8**  
**DAMAGES**

**8.1** The Liquidated Damages, provided in the Bidding Documents, will be assessed for each day beyond the date given for Substantial Completion of the Contract according to the Contract Time.

**8.2** The Liquidated Damages or any portion thereof may be waived at the sole discretion of the Commissioner.

**8.3** No payment by the Owner, either partial or final, shall be construed to waive the Owner's right to seek liquidated damages.

**8.4** In the event a court determines that the contract herein is null and void for any reason, Contractor agrees that Contractor will not seek or pursue any lawsuit or claim for damages, including, but not limited to, claims for loss of overhead or anticipated profits, against the Owner and the Owner shall not be liable for any damages which Contractor may incur as a result of such decision. In addition, if the court enjoins the Owner from entering into or proceeding with the contract herein, the Owner shall not be liable for any damages arising out of or relating to the award of such contract which Contractor may have incurred as a result of the injunction.

**Article 9**  
**MINIMUM WAGE RATES**

In accordance with the provisions of the Connecticut General Statutes Section 31-53, the following applies:

"The wages paid on an hourly basis to any mechanic, laborer or workman employed upon the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such employee to any employee welfare fund, as defined in subsection (h) of section 31-53 of the general statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such employees to any such employee welfare fund shall pay to each employee as part of his wages the amount of payment or contribution for his classification on each pay day."

**Article 10**  
**POSTING MINIMUM WAGE RATES**

**10.1** The Contractor shall post at conspicuous points on the site of the Contract a Schedule showing all determined wage rates for all trades and all authorized deductions, if any, from wages to be paid.

**10.2** The Contractor shall provide weekly certified payrolls to the Owner for all persons working on the site.

**Article 11**  
**CONSTRUCTION SCHEDULES**

**11.1** Unless otherwise specified in the Contract Documents, within twenty-one (21) calendar days from the contract start date, the Contractor shall submit the following to the Owner for approval:

**11.1.1** A comprehensive schedule of Submittals required by the Specifications. Said schedule shall include Submittal dates, required approval dates and date material must be on site.

**11.1.2** The Contractor shall allow a minimum of two weeks for the Owner and its agents' review of Submittals. No extension of the Contract Time shall be granted for revisions and resubmission. Further, the Contractor shall allow a minimum of eight weeks for testing and acceptance of the Work by the Owner and its agents.

**11.1.3** When the Contract Documents specify a "CPM Schedule" a detailed Critical Path Method Schedule is required using software approved by the Owner with as many activities as necessary to make the Schedule an effective tool for planning and monitoring the progress of the Work. The Contractor shall show all pertinent activities requiring coordination between trades.

**11.1.4** When the Contract Documents specify a "Construction Schedule" a detailed Construction Schedule is required using software approved by the Owner as a horizontal bar chart with a separate bar for each major portion of the Work or operation to make the Schedule an effective tool for planning and monitoring the progress of the Work.

**11.2** Unless otherwise specified under the Contract Documents, the Contractor shall provide a monthly update of the CPM Schedule or Construction Schedule in the format required by the Owner as well as a disk of the updated Schedule and program. If, in the opinion of the Owner, the Work is falling behind Schedule, the Contractor shall submit a revised Schedule demonstrating a recovery plan to ensure Substantial Completion of the Work within the Contract Time.

**11.3** Requisitions for partial payment will not be processed until the Contractor has complied with this requirement.

**Article 12  
PREFERENCE IN EMPLOYMENT**

**12.1** Should this Contract be for the construction or repair of any building, then in the employment of labor to perform the Work specified herein, preference shall be given to citizens of the United States, who are, and continuously for at least three (3) months prior to the date hereof, have been residents of the labor market area, as established by the State of Connecticut Labor Commissioner, in which such Work is to be done, and if no such qualified person is available, then to citizens who have continuously resided in the county in which the Work is to be performed for at least three (3) months prior to the date hereof, and then to citizens of the state who have continuously resided in the State at least three months prior to the date hereof.

**12.2** Should this Contract be for a public works project other than for the construction, remodeling or repairing of public buildings covered by Connecticut General Statutes Section 31-52, then in the employment of mechanics, laborers or workmen to perform the Work specified herein, preference will be given to residents of the state who are, and continuously for at least six (6) months prior to the date hereof have been residents of this State, and if not such person is available then to residents of other states.

**12.3** The provisions of this Article shall not apply where the state or any sub-division thereof may suffer the loss of revenue granted or to be granted from any agency or department of the federal government as a result of this Article or regulations related thereto.

**Article 13  
COMPENSATION FOR CHANGES  
IN THE WORK**

**13.1** At any time, without invalidating the Contract and by a written order and without notice to the sureties, the Owner, through the Construction Administrator, may order modifications in the Work consisting of additions, deletions or other revisions. Upon request, the Contractor shall supply the Construction Administrator promptly with a detailed proposal for the same, showing quantities of and unit prices for the Work and that of any Subcontractor involved.

**13.2** Modifications to the Work will be authorized by a written Change Order, or if necessary to expedite the Work, a written Construction Change Directive, issued by the Owner as provided for in Article 26. Change Orders and Construction Change Directives shall be processed in accordance with the terms of the Contract Documents. Upon receipt of the

written Change Order, the Contractor shall proceed with the Work when and as directed.

**13.3** If such Change Orders make the Work less expensive for the Contractor, the proper deductions shall be made from the Contract Sum, said deductions to be computed in accordance with the provisions listed in this Article 13.

**13.4** The Contractor and the Owner agree that the Contract Time specified for the performance of the Contract shall include not only the Work of the original Contract but also any Additional Work ordered by the Owner by Change Order. No extension of time will be granted if it is the opinion of the Owner that the additional Work can be performed concurrently with the original Work.

**13.5** The Contractor may request, and the Owner may grant additional contract time when, in the opinion of the Owner, the Contractor has demonstrated that such additional work cannot be performed concurrently with the original Work.

**13.6** The amount of compensation to be paid to the Contractor for any Additional or Deleted Work that results in a Change Order shall be determined in one of the following manners:

**13.6.1 AMOUNT OF COMPENSATION FOR CHANGE ORDER COSTS: LABOR, EQUIPMENT, BENEFITS AND MATERIAL**

**13.6.1.1** Unit Price: As stated in the Contract Documents.

**13.6.1.2** Unit Price: As subsequently agreed upon by the Contractor and Owner.

**13.6.1.3** Lump Sum: Agreed upon sum by the Owner and the Contractor. The Lump Sum must be based upon the following itemized costs:

**13.6.1.3.1** Labor (Contractor's or Subcontractor's own forces)

**13.6.1.3.2** Material (Used by Contractor's or Subcontractor's own forces).

**13.6.1.3.3** Benefits: (The established rates of the following benefit costs inherent to the particular labor involved):

**13.6.1.3.3.1** Workers Compensation.

**13.6.1.3.3.2** Federal Social Security.

**13.6.1.3.3.3** Connecticut Unemployment Compensation.

**13.6.1.3.3.4** Fringe Benefits.

**13.6.1.3.4** Rented Equipment (Used directly on the Work and by the Contractor's or Subcontractor's own forces).

**13.6.1.3.5** Owned Equipment (Used directly on the Work and by the Contractor's or Subcontractor's own forces). Daily rate is not to exceed 3% of the monthly

rental rate as identified by a nationally recognized construction cost estimating guide or service.

**13.6.1.3.6** Trade related equipment, hand tools and power tools, normally supplied with the labor are not compensable.

**13.6.2 OVERHEAD AND PROFIT PERCENTAGES:**  
 (Maximum allowable percentages applied to labor, equipment, benefits and material)

**13.6.2.1** Contractor's markup for Work performed by their own forces:

<b>Change Order Amount</b>	<b>Overhead and Profit</b>
\$0 to \$ 5,000	20%
\$5,001 to \$15,000	17%
\$15,001 to \$25,000	15%
\$25,000 and greater	12%

**13.6.3 OVERHEAD AND PROFIT PERCENTAGES:**  
 (Maximum allowable percentages applied to labor, equipment, benefits and material)

**13.6.3.1** Contractor's markup for Work performed by their Subcontractors forces.:

<b>Change Order Amount</b>	<b>Overhead and Profit</b>
\$0 and greater	6%

**13.6.4 OVERHEAD AND PROFIT PERCENTAGES:**  
 (Maximum allowable percentages applied to labor, equipment, benefits and material)

**13.6.4.1** Subcontractor's markup for Work performed by their own forces:

<b>Change Order Amount</b>	<b>Overhead and Profit</b>
\$0 to \$ 5,000	20%
\$5,001 to \$15,000	17%
\$15,001 to \$25,000	15%
\$25,000 and greater	12%

**13.6.5 OVERHEAD AND PROFIT PERCENTAGES:**  
 (Maximum allowable percentages applied to labor, equipment, benefits and material)

**13.6.5.1** Subcontractor's markup for Work performed by their Secondary Subcontractor's forces.

<b>Change Order Amount</b>	<b>Overhead and Profit</b>
\$0 and greater	6%

**13.7** Actual additional bonding costs associated with the value of the Change Order will be compensable only when supported by a written documentation by the bonding company that the Change Order requires an increase to the original Performance, Payment, Labor or Material Bond.

**13.8** On Work performed by a Secondary Subcontractor, the Owner recognizes no markup by the Secondary Subcontractor.

**13.9** If Unit Prices are not applicable and the parties cannot agree upon a lump sum, then the Commissioner, through the Construction Administrator, may at the option of the Commissioner take the following action(s):

**13.9.1** Issue a Construction Change Directive for the Additional or deleted Work. The amount of compensation shall be computed by the actual net costs to the Contractor based upon the following:

**13.9.1.1** Labor (Contractor's or Subcontractor's own forces)

**13.9.1.2** Material (Used by Contractor's or Subcontractor's own forces).

**13.9.1.3** Benefits: (The established rates of the following benefit costs inherent to the particular labor involved):

**13.9.1.3.1** Workers Compensation.

**13.9.1.3.2** Federal Social Security.

**13.9.1.3.3** Connecticut Unemployment Compensation.

**13.9.1.3.4** Fringe Benefits.

**13.9.1.4** Rented Equipment (Used directly on the Work and by the Contractor's or Subcontractor's own forces).

**13.9.1.5** Owned Equipment (Used directly on the Work and by the Contractor's or Subcontractor's own forces).

Daily rate is not to exceed 3% of the monthly rental rate that can be identified by a nationally recognized construction cost estimating guide or service.

**13.9.2** Issue a Change Order adjusting the Contract Sum in the amount as determined by the Commissioner.

**13.10** For any Change Order or Construction Change Directive the Contractor shall, when requested, promptly furnish in a form satisfactory to the Construction Administrator and the Owner a complete detailed accounting of all costs relating to the Additional Work, including but not limited to certified payrolls and copies of accounts, bills and vouchers to substantiate actual costs. Further, the Owner reserves the right to access and make copies of the Contractor's records at any time upon written request from the Commissioner.

**13.11** If the Contractor wishes to make a claim for an increase in the Contract Sum for any damages sustained as a result of Additional Work, then the Contractor shall give the Owner, through the Construction Administrator, written notice thereof within seven (7) calendar days after the occurrence of the event giving rise to such claims.

**13.12** No such claims shall be valid if the written notice is submitted after the required seven (7) calendar days. In addition, the Contractor shall file with the Owner through the Construction Administrator daily or weekly itemized statements of the details and cost of such Work performed or damage sustained as may be required by the Owner.

**13.13** Failure of the Contractor to negotiate in good faith issues of time and costs and failure to provide requested documentation within (14) fourteen calendar days, or a time period accepted by the Commissioner, shall constitute a waiver by the Contractor of any claim. In such cases the Owner may elect to issue a unilateral Change Order in an amount deemed to be fair and equitable by the Commissioner. The provisions hereof shall not affect the power of the Contractor to act in case of emergency, threatened injury to persons, or damage to Work on any adjoining property. In this case the Commissioner, through the Construction Administrator, shall issue a written order for such amount as the Commissioner finds to be reasonable cost of such Work.

**Article 14**  
**DELETED WORK**

**14.1** Without invalidating any of the terms of the Contract, the Commissioner may order deleted from the Contract any items or portions of the Work deemed necessary by the Commissioner.

**14.2** The compensation to be deducted from the Contract Sum for such deletions shall be determined in the manner provided for under the provisions of Article 13 or in the event none of the provisions of Article 13 are applicable than by the value as estimated by the Owner.

**Article 15**  
**MATERIALS: STANDARDS**

**15.1** Unless otherwise specifically provided for in the Specifications, all equipment, materials and articles incorporated in the Work are to be new and of the best grade of their respective kinds for the purposes. Wherever in the Contract Documents a particular brand, make of material, device, or equipment is shown or specified, the first manufacturer listed in the specification section is to be regarded as the standard. When the specification is proprietary and only one manufacturer is listed, the Contractor shall use the named manufacturer and no Substitutions or Equals will be allowed.

**15.2** Any other brand, make of material, device, equipment, procedure, etc. which is a deviation from the specified requirement is prohibited from use but may be considered by the Owner for approval as an Equal or Substitution. The Contractor is to adhere to the specific requirements of the Contract Documents. Substitutions are discouraged and are only approved by the Commissioner as an exception.

**15.3** Each request for an Equal or Substitution shall be submitted, with the appropriate documentation, as detailed in

the Contract Documents, to the Construction Administrator. All requests will be compared to the first manufacturer or first procedure listed in the specific Specification section with reference to all of the following areas: the substance and function considering quality, workmanship, economy of operation, durability and suitability for purposes intended including the size, rating and cost. All submissions must include all the required data for the first listed manufacturer or procedure as specified, as well as the proposed Equal or Substitution. The submission of all Equals or Substitutions to those specified must be made within the days listed below after the contract start date. After that time period, the Contractor shall provide what is specified unless otherwise allowed within the sole discretion of the Commissioner.

**15.3.1** 30 days for projects having a Contract Time duration of 180 days or less

**15.3.2** 60 days for projects having a Contract Time duration of 181 days to 360 days

**15.3.3** 90 days for projects having a Contract Time duration of 361 days or greater

**15.4** Contractor shall submit each request for Equal or Substitution to the Architect who shall review each request and make the following recommendations to the Owner:

**15.4.1** Acceptance or non-acceptance of the adequacy of the submission and required back-up,

**15.4.2** Determination of the category of the request for Substitution or Equal, and

**15.4.3** Overall recommendation for approval or rejection of the Substitution or Equal. The determination of the category as a Substitution may be grounds for an immediate rejection by the Owner.

**15.5** Approval of the Owner, for each Equal or Substitution shall be obtained before the Contractor proceeds with the Work. The decision of the Commissioner, in this regard, shall be final and binding on the Contractor.

**15.6** No extension of time will be allowed for the time period required for consideration of any Substitution or Equal. No extension of time will be allowed and no responsibility will be assumed by the Owner when a Contractor submits a request for Substitution or Equal, whether such request be approved or denied.

**15.7** If the Contractor submits any request for an Equal or a Substitution, he shall bear the burden of proof that such requested Equal or Substitution meets the requirements of the plans and specifications.

**15.8** The Contractor shall purchase no materials or supplies for the Work which are subject to any chattel mortgage or which are under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor

warrants that the Contractor has good title to all materials and supplies used by him in the Work.

**15.9** All Products and systems supplied to the State as result of a purchase by a contractor shall be certified that, to the best of the supplier's knowledge there are no materials that are classified as hazardous materials being used within the assembly. Hazardous materials include, but are not limited to, products such as asbestos, lead and other materials that have proven to cause a health risk by their presence.

#### **Article 16** **INSPECTION AND TESTS**

**16.1** The purpose of the inspections will be to assure that the Work is performed in accordance with the Contract Documents. These inspections shall include, but not be limited to all inspections and testing as required by the Owner, and any authorities have jurisdiction.

**16.2** All material and workmanship, if not otherwise designated by the Specifications, shall be subject to inspection, examination and test by the Commissioner at any and all times during manufacture and/or construction and at any and all places where such manufacture and/or construction is carried on. The Contract Documents additionally identify the parties responsible for performing and paying for the required testing and inspections. All required tests performed in a laboratory will be obtained and paid for by the Owner except when the tests show the Work to be defective. The Contractor shall pay for all the costs associated with re-tests and re-inspections for all tests and inspections which fail. The Owner will issue a deduct Change Order to recover said retesting costs from the Contractor. All other tests, unless otherwise specified, shall be made at the Contractor's expense. Notice of the time of all tests to be made at the site shall be given to all interested parties, including the Owner.

**16.3** Without additional cost to the Owner, the Contractor shall promptly furnish facilities, labor and materials necessary to coordinate and perform operational tests and check-out of the Work. The Contractor shall furnish promptly all reasonable facilities, labor and materials necessary to make all such testing safe and convenient.

**16.4** If, at any time before Final Completion and Final Acceptance of the Work, the Commissioner considers it necessary or advisable to examine of any portion of the Work already completed by removing or tearing out the same, the Contractor shall, upon request, furnish promptly all necessary facilities, labor and materials. If such Work is found to be defective in any material respect, as determined by the Owner, because of a fault of the Contractor or any of the Contractor's Subcontractors, or if any Work shall have been

covered without the approval or consent of the Commissioner (whether or not it is found to be defective), the Contractor shall be liable for testing costs and all costs of correction, including removal and/or demolition of the defective work, including labor, material, and testing, including labor, material, re-testing or re-inspecting, services of required consultants, additional supervision, the Commissioner's and the Construction Administrator's administrative costs, and other costs for services of other consultants.

#### **Article 17** **ROYALTIES AND PATENTS**

**17.1** If the Contractor desires to use any design, device, material or process covered by a patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the holder of said patent or copyright. The Contractor shall furnish a copy of this legal agreement to the Owner.

**17.2** The Contractor shall indemnify and hold harmless the Owner and Construction Administrator for any costs, expenses and damage which it may be obliged to pay by reason of any infringement of a patent or a copyright, at any time during the prosecution or after the Final Completion of the Work.

#### **Article 18** **SURVEYS, PERMITS AND REGULATIONS**

**18.1** Unless otherwise provided for, the Contractor shall furnish surveys necessary for the execution of the Work. The Owner will furnish the Contractor with two base lines and a benchmark.

**18.2** The Contractor shall obtain and pay for permits and licenses necessary for the execution of the Work and the occupancy and use of the completed Work.

**18.3** The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations including building and fire safety codes relating to the performance of the Work.

**18.4** If underground utilities may involve part of the Work, the Contractor shall obtain the services of a qualified underground utility locating firm, at no cost to the Owner, to verify locations of underground utilities, to provide safety, protect the Work and protect the workmen as necessary to perform the Work.

#### **Article 19**



**PROTECTION OF THE WORK,  
PERSONS AND PROPERTY**

**19.1** The Contractor shall continuously and adequately protect the Work against damage from any cause, and shall protect materials and supplies furnished by the Contractor or Subcontractors, whether or not incorporated in the Work, and shall make good any damage unless it be due directly to errors in the Contract Documents or is caused by agents or employees of the Owner.

**19.2** To the extent required by law, by public authority, or made necessary in order to safeguard the health and welfare of the personnel or occupants of any of the state institutions, the Contractor shall adequately protect adjacent property and persons, and provide and maintain all facilities, including but not limited to passageways, guard fences, lights, and barricades necessary for such protection.

**19.3** The Contractor shall take all necessary precautions for the safety of employees on the Work and shall comply with applicable provisions of federal and state safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. The Contractor shall also comply with the applicable provisions of the Associated General Contractors' Manual of Accident Prevention in Construction, the standards of the Connecticut Labor Department and Occupational Safety and Hazard Association (OSHA).

**19.4** The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for the protection of employees of the State and the public, and shall post danger signs warning against any dangerous condition or hazard created by such things as protruding nails, well holes, elevator hatchways, scaffolding, window openings, excavations, tripping hazards or slipping, stairways and falling materials.

**19.5** The Contractor shall designate a qualified and responsible on site staff person, whose duty shall be the prevention of accidents. The name and position of the designated person shall be reported to the Owner by the Contractor at the commencement of the Contract.

**19.6** The Contractor shall at all times protect excavation, trenches, buildings and all items of Work from damage by rain, water from melted snow or ice, surface water run off and subsurface water usual for the vicinity at the time of operations; and provide all pumps and equipment and enclosures to insure such protection.

**19.7** The Contractor shall construct and maintain all necessary temporary drainage and do all pumping necessary to

keep excavation, basements, footings and foundations free of water.

**19.8** The Contractor shall remove all snow and ice as may be required for access to the site and proper protection and prosecution of the Work.

**19.9** The Contractor shall install bracing, shoring, sheathing, sheet piling, caissons and any other underground facilities as required for safety and proper execution of the Work, and shall remove this portion of the Work when no longer necessary.

**19.10** During cold weather the Contractor shall protect all Work from damage. If low temperature makes it impossible to continue operations safely in spite of cold weather precautions, the Contractor may cease Work upon the written approval of the Commissioner.

**Article 20**  
**TEMPORARY UTILITIES**

**20.1** Unless expressly provided for otherwise in the Contract Documents, the Contractor shall include in the bid the costs of all temporary utilities required for project completion and protection of the Work. Said temporary utilities include but are not limited to lighting, heating, cooling, electrical power, water, telephone, sanitary facilities, and potable water.

**Article 21**  
**CORRECTION OF WORK**

**21.1** The Contractor shall promptly and without expense to the Owner remove from the premises all materials rejected by or unacceptable to the Commissioner as failing to conform to the Contract Documents, whether incorporated in the Work or not.

**21.2** The Contractor shall promptly and without expense to the Owner replace any such materials which do not conform to the Contract Documents, and shall bear the expense of making good all Work of other Contractors or Subcontractors destroyed or damaged by such removal or replacement.

**21.3** If the Contractor, after receipt of notice from the Owner, shall fail to remove such rejected or unacceptable materials within a reasonable time as fixed in said notice, the Owner may remove and store such materials at the expense of the Contractor.

**21.4** Such action shall not affect the obligation of the Contractor to replace and complete assembly and installation of

the Work and to bear the expenses referred to above. Prior to the correction of rejected or unacceptable Work or if the Commissioner deems it inexpedient or undesirable to correct any portion of the Work which was rejected, deemed unacceptable or not done in accordance with the Contract Documents, the Contract sum shall be reduced by such amount as, in the judgment of the Commissioner, shall be equitable.

**21.5** No extension of time will be given to the Contractor for correction of rejected or unacceptable Work. All significant punchlist Work shall be completed before Substantial Completion is determined. The remaining minor punchlist Work, as determined by the Commissioner, shall be completed within 60 days of established Substantial Completion date.

**21.6** Final Payment shall not relieve the Contractor of responsibility for the defects in material or workmanship.

**21.7** Unless expressly provided for otherwise in the Contract Documents, the Contractor shall remedy any rejected or unacceptable Work, and any Work found to be not conforming to the Contract Documents which is discovered within 18 Months after the date of Substantial Completion. The Contractor shall pay for any damage to other Work caused by such nonconforming Work or any damage created in correcting the nonconforming Work.

**Article 22**  
**GUARANTEES and WARRANTIES**

**22.1** Unless expressly provided for otherwise in the Contract Documents, the Contractor shall provide a warranty on the Work for an 18-Month period from the date of Substantial Completion. The Contractor shall warrant that the equipment, materials and workmanship are of good quality and new, unless permitted elsewhere by the Contract Documents, and that the Work shall be free from defects not inherent in the quality required or permitted and that the Work conforms to the Contract Documents.

**22.2** Disclaimers and limitations from manufactures, Subcontractors, suppliers or installers to the Contractor shall not relieve the Contractor of the Warranty on the Work. The Contract Documents detail the related damages, reinstatement of warranty, replacement cost and Owner's recourse.

**Article 23**  
**CUTTING, FITTING, PATCHING AND DIGGING**

**23.1** The Contractor will perform or will cause the Subcontractors to perform all cutting, fitting or patching of the por-

tion(s) of the Work that may be required to make the several parts thereof joined and coordinated in a manner satisfactory to the Commissioner and in accordance with the Plans and Specifications.

**23.2** The responsibility for defective or ill-timed Work shall be with the Contractor, but such responsibility shall not in any way relieve the Subcontractor who performed such Work. Except with the consent of the Commissioner, neither the Contractor nor any of its Subcontractors shall cut or alter the Work of any other Contractor or Subcontractor.

**Article 24**  
**CLEANING UP**

**24.1** The Contractor shall, on a daily basis, keep the premises free from accumulations of waste material or rubbish.

**24.2** Prior to Final Completion of the Work, the Contractor shall remove from and about the site of the Work, all rubbish and all temporary structures, tools, scaffolding and surplus materials, supplies and equipment which may have been used in the performance of the Work. If the Commissioner in his sole discretion determines that the Contractor has failed to clean the work site, the Owner may remove the rubbish and charge the cost of such removal to the Contractor. A deduct Change Order will be issued by the Owner to recover such cost.

**Article 25**  
**ALL WORK SUBJECT TO CONTROL OF THE COMMISSIONER**

**25.1** The Commissioner hereby declares that the Department of Public Works Project Manager is the Commissioner's only authorized representative to act in matters involving the Owner's or Architect's ability to revoke, alter, enlarge or relax any requirement of the Contract Documents; to settle disputes between the Contractor and the Construction Administrator; and act on behalf of the Commissioner. In all such matters, the provisions of Articles 13 and 14 herein shall guide the Project Manager.

**25.2** In no event may the Contractor act on any instruction of the Agency without written consent of the Owner. In the event the Contractor acts without such consent, he does so at his own risk and at his own expense, not only for the Work performed, but for the removal of such Work as determined necessary by the Commissioner.

**25.3** In the performance of the work, The Contractor shall abide by all orders, directions, and requirements of the Commissioner at such time and places and by such methods and in such manner and sequence as the Commissioner may require.

**25.4** The Commissioner shall determine the amount, quality, acceptability and fitness of all parts of the work, shall interpret the plans, specifications, Contract Documents and extra work orders and shall decide all other questions in connection with the Work.

**25.5** The Contractor shall employ no plant, equipment, materials, methods or persons to which the Commissioner objects and shall remove no plant materials, equipment or other facilities from the site of the Work without the permission of the Commissioner. Upon request, the Commissioner shall confirm in writing any oral order, direction, requirement or determination.

**Article 26**  
**AUTHORITY OF THE CONSTRUCTION**  
**ADMINISTRATOR**

**26.1** The Construction Administrator employed by the Commissioner is authorized to inspect all Work for conformance to the Contract Documents. The Construction Administrator is authorized to reject all Work found to be defective, unacceptable and nonconforming to the Contract Documents. Such inspections and rejections may extend to all or any part of the Work, and to the preparation or manufacture of the material to be used.

**26.2** The Construction Administrator is not empowered to revoke, alter, enlarge or relax any requirements of the Contract Documents, or to issue instructions contrary to the Contract Documents. The Construction Administrator shall in no case act as foreman or perform other duties for the Contractor, nor shall the Construction Administrator interfere with the management of the Work by the Contractor. Any advice, which the Construction Administrator may give the Contractor, shall in no way be construed as binding the Commissioner or Owner in any way, nor releasing the Contractor from the fulfillment of the terms of the Contract.

**26.3** In any dispute arising between the Contractor and the Construction Administrator with reference to inspection and rejection of the Work, the Construction Administrator may suspend work on the noncompliant portion of the Work until the dispute can be referred to and decided by the Commissioner.

**Article 27**  
**SCHEDULE OF VALUES,**  
**APPLICATION FOR PAYMENT**

**27.1** Immediately after the signing of the Contract, the Contractor shall furnish for the use of the Commissioner as a basis for estimating partial payments, a certified Schedule of Values, totaling the contract sum and broken down into quantities and unit costs, as outlined in the Contract Documents and as directed by the Owner. The Schedule of Values must reflect true costs and be in sufficient detail to be an effective tool for monitoring the progress of the Work. Upon request of the Commissioner, the Contractor shall supply copies of signed Contracts, vendor quotations, etc. as back up to the Schedule of Values.

**27.2** Approval of the Schedule of Values by the Commissioner is required prior to any payment by the Owner.

**27.3** The Schedule of Values shall include a breakdown of the Contractor's general condition costs.

**27.3.1** Non-recurring costs, (i.e. mobilization costs, utility hook-ups, temporary heat) will be paid at the time of occurrence.

**27.3.2** Reoccurring costs will be paid in proportion to the percent of completion of the project.

**27.4** The Schedule of Values shall include a breakdown of Contract closeout costs including systems certification testing and acceptance, training, warranties, guarantees, as-builts and attic stock.

**27.5** The Contractor shall make periodic applications for payment, which shall be subdivided into categories corresponding with the approved Schedule of Values and shall be in such numbers of copies as may be designated by the Commissioner.

**Article 28**  
**PARTIAL PAYMENTS**

**28.1** The Commissioner will examine the Contractor's applications for payments to determine, in the opinion of the Commissioner, the amounts that properly represent the value of the Work completed and for the materials suitably stored on the site.

**28.2** In making such Application For Payment for the Work, there shall be deducted (10%) ten percent of the amount of each payment to be retained by the Owner until Final Completion.

**28.3** At the sole discretion of the Commissioner, and after

completion and acceptance of (60%) sixty percent of the value of the Work, and if the character and progress of the Work remain satisfactory, the retained portion of the Application for Payments may be reduced to five percent (5%) of total payments. The minimum total amount of payment retained, prior to the Final Payment shall not be less than five percent (5%) of the Contract Sum.

**28.4** The decision of the Commissioner to reduce the retainage rate will be based upon the Contractor's performance for completed portions of the Work as set out below and other factors the Commissioner may find appropriate:

**28.4.1** The Contractor's timely submission of an appropriate and complete CPM Schedule or Construction Schedule and Schedule of Values, in compliance with the Contract requirements and the prompt resolution of the Owner's and/or Architect's comments on the submitted material resulting in an appropriate basis for progress of the Work.

**28.4.2** The Contractor's timely and proper submission of all Contract required submissions: including but not limited to shop drawings, material certificates and material samples and the prompt resolution of the Owners and/or Architect's comments on the submitted material resulting in an appropriate progress of the Work.

**28.4.3** The Contractor's provision of proper and adequate supervision and home office support of the Project and any Subcontractor Work resulting in coordinated progress and proper quality control for the Work.

**28.4.4** The Work completed to date has been installed or finished in an acceptable manner which is satisfactory to the Owner.

**28.4.5** The progress of the Work is consistent with the approved CPM Schedule or Construction Schedule.

**28.5** No payments will be made for improperly stored or protected materials or unacceptable Work.

#### **Article 29**

#### **DELIVERY OF STATEMENT SHOWING AMOUNTS DUE FOR WAGES, MATERIALS AND SUPPLIES**

**29.1** For each Application for Payment under this Contract, the Owner reserves the right to require the Contractor and every Subcontractor to submit a written verified statement, in a form satisfactory to the Owner, showing in detail all amounts then due and unpaid by such Contractor or Subcontractor for daily or weekly wages to all laborers employed by him for the performance of the Work or to other persons for materials, equipment or supplies delivered at the site.

**29.2** The term laborers as used herein shall include workmen, workwomen, and mechanics.

**29.3** Failure to comply with this requirement may result in the Owner withholding the application for payment pursuant to Article 28.

#### **Article 30**

#### **COMPLETION AND ACCEPTANCE**

##### **30.1 Substantial Completion:**

**30.1.1** When the Contractor considers that the Work, or a portion thereof is Substantially Complete, the Contractor shall request an inspection of said Work to the Construction Administrator.

**30.1.2** Upon receipt of the request, the Architect, Construction Administrator and Owner, will make an inspection to determine if the Work or designated portion thereof is Substantially Complete. If the inspection discloses any item, whether or not included on the inspection list, which is not in accordance with the requirements of the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item.

**30.1.3** The Contractor shall then submit a request for another inspection. The determination of Substantial Completion is solely within the discretion of the Owner.

**30.1.4** When the Work or designated portion thereof is determined to be Substantially Complete, the Contractor will be provided a Certificate of Substantial Completion from the Owner. The Certificate of Substantial Completion, shall establish the date when the responsibilities of the Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, are transferred to the Owner and shall fix the time within which the Contractor shall finish all items on the inspection list accompanying the Certificate.

**30.1.5** The Certificate of Substantial Completion shall be signed by the Construction Administrator, Owner, and Architect.

**30.1.6** Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and certification by the Construction Administrator and Architect, the Owner shall make payment reflecting adjustment in retainage, if any, for such Work or portion thereof as provided in the Contract Documents.

##### **30.2 Final Completion:**

**30.2.1** Upon Final Completion of the Work, the Contractor shall forward to the Construction Administrator a written notice that the Work is ready for Final Inspection and Acceptance and shall also forward to the Construction Administrator, a Final Application for Payment. Upon de-

termination by the Owner that all the Work is complete, the Owner will issue a Certificate of Completion and Acceptance.

**30.2.2** When the Work has been completed in accordance with terms and conditions of the Contract Documents a Certificate of Completion shall be issued to be signed by the Contractor.

### **Article 31** **FINAL PAYMENT**

**31.1** The Owner reserves the right to retain for a period of thirty (30) days after filing of the Certificate of Completion and Acceptance the amount therein stated less all prior payments and advances whatsoever to or for the account of the Contractor.

**31.2** All prior estimates and payments, including those relating to extra or additional Work, shall be subject to correction by the Final Payment.

**31.3** No Application for Payment, Final or Partial, shall act as a release to the Contractor or the Contractor's sureties from any obligations under this Contract.

**31.4** The Architect and Construction Administrator will promptly issue the Certificate for Payment, stating that to the best of their knowledge, information and belief, and on the basis of their observations and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in said Final Payment is due and payable.

**31.5** Final Payment shall not be released until a Certificate of Completion and Acceptance and a Certificate of Compliance have been issued.

**31.6** Neither Final Payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner the following:

**31.6.1** An affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied.

**31.6.2** A certificate evidencing that insurance required by the Contract Documents to remain in force after Final Payment is currently in effect and will not be canceled or allowed to expire without at least 30 days prior written notice to the Owner.

**31.6.3** A written statement that the Contractor knows of no substantial reason that the insurance will not be renew-

able to cover the period required by the Contract Documents.

**31.6.4** Written consent of surety, if any, to Final Payment.

**31.6.5** If required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorney's fees.

**31.6.6** If, after Substantial Completion of the Work, Final Completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting Final Completion and the Construction Administrator and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Administrator and Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Owner prior to Final Payment. Such payment shall be made under terms and conditions governing Final Payment, except that it shall not constitute a waiver of Claims.

### **Article 32** **OWNER'S RIGHT TO WITHHOLD PAYMENTS**

**32.1** The Commissioner may withhold a portion of any Payment due the Contractor that may, in the judgment of the Commissioner, be necessary:

**32.1.1** To assure the payment of just claims then due and unpaid to any persons supplying labor or materials for the Work.

**32.1.2** To protect Owner from loss due to defective, unacceptable or non-conforming Work not remedied by the Contractor.

**32.1.3** To protect the Owner from loss due to injury to persons or damage to the Work or property of other Contractors, Subcontractors, or others caused by the act or neglect of the Contractor or any of its Subcontractors.

**32.2** The Owner shall have the right to apply any amount

withheld under this section as the Owner may deem proper to satisfy protection from claims. The amount withheld shall be considered a payment to the Contractor.

**32.3** The Owner has the right to withhold payment if the Contractor fails to provide accurate submissions of submittals, up date the status including but not limited to the following: as-built documents, request for information (RFI) log, Schedule, submittal log, change order log, certified payrolls and daily reports and all other requirement of the Contract Documents.

**32.4** Neither Final Payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Administrator:

**32.4.1** An affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied,

**32.4.2** A certificate evidencing that insurance required by the Contract Documents to remain in force after Final Payment is currently in effect and will not be canceled or allowed to expire until at least 30 days prior written notice has been given to the Owner,

**32.4.3** A written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents,

**32.4.4** Consent of surety, if any, to Final Payment and

**32.4.5** If required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner.

**32.5** If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorney's fees.

### **Article 33** **OWNER'S RIGHT TO STOP WORK OR** **TERMINATE CONTRACT**

**33.1** The Commissioner shall have the authority to suspend the Work wholly or in part, for such period or periods as the Commissioner considers to be in the best interests of the State, or in the interests of public necessity, convenience or

safety. During such periods the Contractor shall store all materials and equipment, in such a manner to prevent the materials and equipment from being damaged in any way, and the Contractor shall take precautions to protect the Work from damage.

**33.1.1** If the Commissioner, in writing, orders the performance of all or any portion of the Work to be suspended or delayed for an unreasonable period of time (i.e. not originally anticipated, customary, or inherent in the construction industry) and the Contractor believes that additional compensation and/or Contract Time is due as a result of such suspension or delay, the Contractor shall submit to the Commissioner in writing a request for a Contract adjustment within 7 calendar days of receipt of the notice to resume Work. The request shall set forth the specific reasons and support for said adjustment.

**33.1.2** The Commissioner shall evaluate any such requests received. If the Commissioner agrees that the cost and/or time required for the performance of the Contract has increased as a result of such suspension and that the suspension was caused by conditions beyond the control of and not the fault of the Contractor, its suppliers, or Subcontractors, and was not caused by weather, then the Commissioner will make a reasonable adjustment, excluding profit, of the Contract terms. The Commissioner will notify the Contractor of the determination as to what adjustments of the Contract, if any, that the Commissioner deems warranted.

**33.1.3** No Contract adjustment will be made unless the Contractor has submitted the request for adjustment within the time prescribed.

**33.1.4** No contract adjustment will be made under this Article to the extent that performance would have been suspended or delayed by any other cause within the Contractor's control or by any factor for which the Contractor is responsible under the Contract; or that such an adjustment is provided for or excluded under other term or condition of this Contract.

**33.2** Notwithstanding any provision or language in the Contract to the contrary, the State may terminate the Contract whenever the Commissioner determines at his sole discretion that such termination is in the best interests of the State. Any such termination shall be effected by delivery to the Contractor of a written Notice of Termination specifying the extent to which performance of Work under the Contract is terminated, and the date upon which such termination shall be effective.

**33.2.1** In the event of such termination, the Contractor shall be entitled to reasonable compensation as determined by the Commissioner, however, no claim for lost overhead or profits shall be allowed.

**33.2.2** Materials obtained by the Contractor for the Work that have been inspected, tested as required, and accepted

by the Commissioner, and that are not incorporated into the Work, shall, at the option of the Commissioner, be purchased from the Contractor at actual cost as shown by receipted bills. To this cost shall be added all actual costs for delivery at such points of delivery as may be designated by the Commissioner, as shown by actual cost records.

**33.2.3** Termination of the Contract shall not relieve the Contractor or its Surety of their responsibilities for the completed Work, nor shall it relieve the Contractor's Surety of its obligations to ensure completion of the Work and to pay legitimate claims arising out of Work.

#### Article 34

#### SUBLETTING OR ASSIGNING OF CONTRACT

**34.1** The Contract or any portion thereof, or the Work provided for therein, or the right, title or interest of the Contractor therein may not be sublet, sold, transferred, assigned, or otherwise disposed of to any person, firm or corporation without the written consent of the Commissioner.

**34.2** No person, firm or corporation other than the Contractor to whom the Contract was awarded shall be permitted to commence Work at the site of the Contract until such consent has been granted.

#### Article 35

#### CONTRACTOR'S INSURANCE

**35.1** The Contractor shall not start Work under the Contract until they have obtained insurance as stated in SECTIONS 00300 CERTIFICATE OF INSURANCE and 00020 BID PROPOSAL FORM, subsections 4.4.2 and 4.4.3, of this Project Manual and until the insurance has been approved by the Owner. The Contractor shall not allow any Subcontractor to start Work until the same insurance has been obtained by the Subcontractor and approved by the Owner or the Contractor's insurance provides coverage on behalf of the Subcontractor. The Contractor shall send Certificates of Liability Insurance to the Bidding and Contracts Unit, Department of Public Works, 165 Capitol Avenue, Room G-9A, Hartford, CT 06106 unless otherwise directed in writing. Presented below is a narrative summary of the insurance required.

**35.1.1 Commercial General Liability** insurance including contractual liability, products/completed operations, broad form property damage and independent Contractors. The limits shall be no less than \$1,000,000 each occurrence and \$2,000,000 annual aggregate. Coverage for hazards of explosion, collapse and underground (X-C-U)

must also be included when applicable to the Work to be performed. The State of Connecticut shall be named as an Additional Insured. This coverage shall be provided on a primary basis.

**35.1.2 Owner's and Contractor's Protective Liability** insurance providing a total limit of \$1,000,000 for all damages arising out of bodily injury or death of persons in any one accident or occurrence and for all damages arising out of injury or destruction of property in any one accident or occurrence and subject to a total (aggregate) limit of \$2,000,000 for all damages arising out of bodily injury to or death of persons in all accidents or occurrences and out of injury to or destruction of property during the policy period. This coverage shall be for and in the name of the State of Connecticut.

**35.1.3** The operation of all motor vehicles including those owned, non-owned and hired or used in connection with the Contract shall be covered by **Automobile Liability** insurance providing for a total limit of \$1,000,000 for all damages arising out of bodily injuries to or death of all persons in any one accident or occurrence and for all damages arising out of injury to or destruction of property in any one accident or occurrence. In cases where an insurance policy shows an aggregate limit as part of the automobile liability coverage, the aggregate limit must be at least \$2,000,000. This coverage shall be provided on a primary basis. Should the Contractor not own any automobiles, the automobile & liability requirement shall be amended to allow the Contractor to maintain only hired and non-owned liability.

**35.1.4 Workers' Compensation and Employer's Liability** as required by Connecticut Law and **Employers' Liability** with a limit of not less than \$100,000 per occurrence, \$500,000 disease policy limit and \$100,000 disease each employee. When Work is on or contiguous to navigable bodies of waterways and ways adjoining, the Contractor shall include Federal Act endorsement for U.S. Longshoremen's and Harbor Workers Act.

**35.1.5 Special Hazards** insurance, if required, will be stated in SECTION 00020 BID PROPOSAL FORM, subsection 4.4.2 of this Project Manual. This includes coverage for explosion, collapse or underground damage and shall be no less than \$1,000,000 each occurrence.

**35.1.6 Builder's Risk** insurance, if required, will be stated in SECTION 00020 BID PROPOSAL FORM, subsection 4.4.3 of this Project Manual.

**35.1.7 Inland Marine/Transit Insurance:** With respect to property with values in excess of \$100,000 which is

rigged, hauled or situated at the site pending installation, the Contractor shall maintain inland marine/transit insurance provided the coverage is not afforded by a Builder's Risk policy.

**35.2 Satisfying Limits Under an Umbrella Policy:** If necessary, the Contractor may satisfy the minimum limits required above for either Commercial General Liability, Automobile Liability, and Employer's Liability coverage under an Umbrella or Excess Liability policy. The underlying limits may be set at the minimum amounts required by the Umbrella or Excess Liability policy provided the combined limits meet at least the minimum limit for each required policy. The Umbrella or Excess Liability policy shall have an Annual Aggregate at a limit not less than two (2) times the highest per occurrence minimum limit required above for any of the required coverages. The State of Connecticut shall be specifically endorsed as an Additional Insured on the Umbrella or Excess Liability policy, unless the Umbrella or Excess Liability policy provides continuous coverage to the underlying policies on a complete "Follow-Form" basis.

**35.3** Each insurance policy required to be maintained by the Contractor except Workers' Compensation and Automobile Liability shall endorse the State of Connecticut as an Additional Insured. Additional Insured endorsements shall provide coverage on a primary basis.

**35.4** When required to be maintained, the Builder's Risk and Inland Marine/Transit Insurance policy shall endorse the State of Connecticut as a Loss Payee.

**35.5** The Contractor shall, at its sole expense, maintain in full force and effect at all times during the life of the Contract or the performance of Work hereunder, insurance coverage as described herein. Certificates shall include a minimum thirty (30) day endeavor to notify requirement to the Owner prior to any cancellation or non-renewal.

**35.6** The Contractor shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, coinsurance penalty, or self-insured retention, including any loss not covered because of the operation of such deductible, coinsurance penalty, or self-insured retention.

**35.7** The requirement contained herein as to types and limits of insurance coverage to be maintained by the Contractor are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor.

**35.8 Hold Harmless Provisions:** The Contractor shall at all times indemnify and save harmless the State of Connecticut, the Department of Public Works, and their respective

officers, agents, and employees, on account of any and all claims, damages, losses, litigation, expenses, counsel fees and compensation arising out of injuries (including death) sustained by or alleged to have been sustained by the officers, agents, and employees of said State or Department, or of the Contractor, his Subcontractor, or materialmen and from injuries (including death) sustained by or alleged to have been sustained by the public, any or all persons on or near the Work, or by any other person or property, real or personal (including property of said State or Department) caused in whole or in part by the acts, omissions, or neglect or the Contractor including but not limited to any neglect in safeguarding the Work or through the use of unacceptable materials in constructing the Work of the Contractor, any Subcontractor, materialman, or anyone directly employed by them or any of them while engaged in the performance of the Contract, including the entire elapsed time from the date of the Notice to Proceed or the actual commencement of the Work whichever occurs first until its completion as certified by the Department of Public Works.

### **Article 36 FOREIGN MATERIALS**

**36.1** Preference shall be given to articles or materials manufactured or produced in the United States, conditions of quality and price with duty being equal.

**36.2** Only domestic articles or materials will be used unless a statement is submitted with the proposal that enumerates the foreign articles of materials proposed to be used and such proposal is accepted by the Owner. The foregoing provisions shall not apply to foreign articles or materials required by the Contract Documents.

### **Article 37 HOURS OF WORK**

**37.1** No person shall be employed to work or be permitted to work more than eight (8) hours in any day or more than forty (40) hours in any week for any Work provided in the Contract, in accordance with Connecticut General Statute Section 31-57.

**37.2** The operation of such limitation of hours of work may be suspended during an emergency, upon the approval of the Commissioner, in accordance with Connecticut General



Statute Section 31-57.

**Article 38  
DAYS OF WORK**

**38.1** Working Calendar Days include all days that the Contractor is permitted to execute the Work or employ any person to execute the Work within the Contract Time.

**38.2** Non-working Calendar Days include all Saturdays, Sundays, Legal State Holidays and any other days identified in the Contract Documents that the Contractor is not permitted to execute the Work or employ any person to execute the Work. The restriction of non-working Calendar Days may be suspended upon the approval or direction of the Commissioner.

**Article 39  
CONTRACT TIME**

**39.1** The Contract Time is the number of calendar days, allotted in the Bidding Documents, for execution and Substantial Completion of the Work, including authorized adjustments thereto. The Contract Time is the sum of all working and non-working calendar days.

**39.2** If weather conditions prevent the Contractor from executing the Work., the Contract Time may be extended by Change Order, for such reasonable time as may be determined by the Owner.

**Article 40  
CALENDAR DAY**

**40.1** This is each day of the calendar.

**End of Section**

## **SUPPLEMENTAL CONDITIONS**

### **ARTICLE - 1. - SCOPE OF WORK:**

- (a) The Contractor shall furnish all labor, materials, equipment, plant, power, water, light, heat, fuel, tools, appliances, supplies and all other means of construction necessary or proper for executing and completing the project; he shall do all work including extra and additional work and pay all costs connected therewith; restore to their original conditions all surfaces disturbed; pay cost of all insurance; bear all losses due to the nature of the work and costs incidental to suspension or discontinuance of the work except as otherwise provided; assume all responsibility of whatever nature of kind, indemnify the Owner from all claims; secure and pay for all permits unless otherwise provided; conform to all county, state, municipal or federal legislation and requirements; he shall do all work necessary to conform the project to the Contract Documents and shall leave intact the work of any adjoining contractors unless otherwise ordered by the Owner; perform and complete the work in a manner best calculated to permit rapid construction, consistent with safety of a life and property and satisfactory to the Owner and in strict accordance with the Contract Documents; he shall protect the work during construction, clean up the work during and after construction and maintain it until final acceptance, as hereinafter provided.
- (b) The Contractor shall do all work and pay all costs of protecting, supporting, maintaining, repairing if damaged, relocating and restoring all surface, subsurface or overhead structures and all other property including pipes, conduits, ducts, tubes, chambers and appurtenances, public or private, in the vicinity of the work, except as otherwise specified.

### **ARTICLE - 2. SUPERINTENDENCE AND WORKERS:**

- (a) The employment of competent superintendent, foremen and experienced mechanics and laborers and others skilled in the particular duties entrusted to them will be required. Whenever the Owner shall inform the Contractor or his representative in charge that any man on the job is incompetent or disorderly or is working contrary to the specifications or the instructions of the Owner, or that the Owner knows that he/she has been incompetent or disorderly on this or any previous work, that person shall thereupon be immediately dismissed from the job and shall not be given employment on any work connected with the contract.
- (b) If requested, the Contractor shall deliver to the Owner each week a record of the numbers and classifications of workers employed upon the project each day of the previous week.

**ARTICLE 3. INSPECTION:**

Authorized representatives and agents of the Owner, shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.

**ARTICLE 4. REPORTS, RECORDS AND DATA:**

The Contractor and each of his subcontractors shall submit to the Owner such schedules of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as the Owner may request concerning work performed or to be performed under this Contract.

**ARTICLE 5. WEATHER CONDITIONS:**

In the event of temporary suspension of work, or during inclement weather, or whenever the Owner shall direct, the Contractor shall, and shall cause his subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the Owner, any work or material was damaged or injured by reason of failure on the part of the Contractor or any of his subcontractors so to protect his work, or otherwise damaged by the negligence of the Contractor, subcontractors or their agents or servants, or is otherwise defective, such materials shall be removed and replaced at the expense of the Contractor.

**ARTICLE 6. ENUMERATION OF DRAWINGS, SPECIFICATIONS AND ADDENDA:**

Following are the drawings, specifications and addenda which form a part of this contract, as set forth in Article I of the Contract and General Conditions, "CONTRACT AND CONTRACT DOCUMENTS":

(a) Drawings: A0.01, SP1, A0.02, EX1.01, D1.01, D1.02, A1.01, A1.02, A3.01, A5.01, A7.01, A8.01, M.001, M0.01, m0.03, MD1.01, M1.01, M1.02, M2.01, E0.01, E.002, E1.01, E1.02, E1.03, PD1.01, P1.01

(b) Specifications:

General Conditions - Pages GC-1 through GC-21, Supplemental Conditions - Pages SC-1 through SC-6, Technical Specifications 6 Divisions 2 through 16,

(c) Addenda:

No.	Date	No.	Date
No.	Date	No.	Date

**ARTICLE 7. PROTECTION OF LIVES AND HEALTH:**

- (a) In order to protect the lives and health of his employees under the contract, the Contractor shall comply with all safety provisions of applicable laws, building and construction codes and all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Incorporated, and shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under this contract.
- (b) The Contractor alone shall be responsible for the safety, efficiency and adequacy of his plant, appliances and methods, and for any damage, which may result from their failure or their improper construction, maintenance or operation.
- (c) The Contractor shall be solely responsible for the acts and omissions of his agents, employees and his subcontractor and their agents and employees and shall hold the Owner harmless and defend the Owner against damages or claims for damages arising out of injuries to other or property of others which result from said acts or omissions.

**ARTICLE 8. WORK TO BE ACCOMPLISHED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATION**

The work, during its progress and at its completion, shall conform to the lines and grades shown on the drawings and to the directions given by the Owner from time to time, subject to such modifications or additions as he shall determine to be necessary during the execution of the work; and in no case will any work be paid for which is performed in excess of such requirements.

**ARTICLE 9. CONTRACTOR TO CHECK DIMENSIONS AND SCHEDULES:**

The Contractor will be required to check all dimensions and quantities shown on the drawings or schedules given to him by the Owner, and shall notify the Owner of all errors therein which he may discover by examining and checking the same.

The Contractor shall not take advantage of any error or omission in these specifications, drawings and schedules. The Owner will furnish all instructions should such error or omission be discovered, and the Contractor shall carry out such instructions as if originally specified.

**ARTICLE 10. SEQUENCE OF WORK:**

The Contractor shall be required to prosecute his work in accordance with a schedule prepared by him in advance in accordance with additional requirements specified herein and approved by the Owner. This schedule shall state the methods and shall forecast the times for doing each portion of the work. Before beginning any portion of the work, the Contractor shall give the Owner advance notice and ample time for making the necessary preparations.

**ARTICLE 12. STREETS AND SIDEWALKS TO BE KEPT OPEN:**

- (a) The Contractor shall at all times keep the streets and sidewalks open for pedestrian and vehicular traffic. If, in the opinion of the Owner, the interest of abutters and public requires it, the Contractor shall bridge or construct plank crossings over the trenches at street crossings, roads or private ways. The Contractor shall conduct his work for this objective in such manner as the Owner may direct from time to time. No sidewalk shall be obstructed where it is possible to avoid it. No additional payment shall be made to the Contractor for such work.
- (b) The Contractor shall provide all necessary Fire Crossings at principal intersection or ways usually traveled by fire apparatus with provisions for the apparatus to have access to all areas which require fire protection.
- (c) All work shall be conducted in such a manner as to provide minimum interference with facility and its daily operation.

**ARTICLE 13. LIGHTS, BARRIERS, FENCES, WATCHMEN AND INDEMNITY:**

- (a) The Contractor shall put up and maintain such barriers, fences, lighting and warning lights, danger-warning signals and signs necessary to prevent accidents during the construction work and protect the work and insure the safety of personnel and the public at all times and places; and the Contractor shall defend, indemnify and save harmless the Owner and their agents in every respect from any injury or damage whatsoever caused by any act, omission or neglect of the Contractor or his Subcontractor, or their servants or agents, including any claims arising out of failure to erect and maintain sufficient railing or fence as required by Section 13a11, Connecticut General Statutes.

The fact that the Owner may retain control of the premises, or that it or its agents may take action to erect or maintain railings or fences shall not relieve the Contractor's obligations hereunder.

- (b) The Contractor at his own expense shall furnish, maintain and use, and cause all his Subcontractors to furnish, maintain and use all necessary safety devices and safe practices in prosecution of the work and to adopt, follow and maintain such additional safety measures as in the opinion of the Owner are conducive to safe operation by the Contractor and the Subcontractors. The Owner shall have the right to order any or all work suspended where, in the Owner's opinion, such work is not being carried on in a safe and proper manner, or where persons and property are not being properly protected or safeguarded and such work shall not be resumed until the Owner's requirements have been met and the Owner has directed that work be resumed. The work required by the preceding paragraph shall be totally at the Contractor's expense.
- (c) In addition to the above, when and as necessary, or when required by the Owner, the Contractor shall post signs and employ watchmen or flagmen for the direction of traffic at the site and for excluding at all times unauthorized persons from the project. The Contractor will not be paid additional compensation for this work.
- (d) The Contractor shall be responsible for excluding at all times from lands within project limits, all persons not directly connected with the work or authorized by the Owner to be within the project areas.

**ARTICLE 14. FACILITIES:**

The Contractor is responsible for providing and maintaining all necessary facilities whether temporary or permanent for all those employed by the Contractor. The locations of such temporary facilities must be approved by the Owner. Under no circumstances will the Contractor nor any of his Subcontractors or Venders be allowed to use any of the Owners facilities.

**ARTICLE 15. UTILITIES:**

The provision and costs for all electrical, water, telephone, etc. utilized by the Contractor and his Subcontractors and venders shall be by the Contractor. Under no circumstances shall the Contractor use any of the Facilities utilities or resources without approval of the Owner.

## **Special Conditions**

### **Outside Contractors Working with in the Facility**

#### **POLICY:**

Any employee who plans to work on grounds must be cleared first by the Department of Children and Families. Driver Liesence and Social Security numbers are required for this back ground check. Please provide this information suffciently in advance of construction. Any change in personel during the project will require the same clearance. Any individual not clear to be on site will be escorted from the site.

**All** outside contractors will coordinate all work within Riverview Hospital with the Plant Facility Engineer and/or Building Maintenance Supervisor before beginning work.

#### **PROTOCOL:**

- ❖ Before beginning work, all outside contractors shall check in at the Building Maintenance Supervisor's office. The outside contractor will supply the following information: scope of work, authorization, duration and any pertinent information that is required. He will also sign in and be issued a pass badge that must be worn if working in patient areas.
- ❖ **All** contractors shall work as professionally as possible so as not to aggravate patients, staff and visitors.
- ❖ **All** contractors shall follow the Facility smoking policy.
- ❖ If special parking is required, permission shall be granted and coordinated through the Building Plant Facility Engineer's office.
- ❖ **All** contractors are to maintain their work area as clean as possible while working and clean up thoroughly when finished.
- ❖ If any utilities or critical systems are to be interrupted, notification of the Plant Facility Engineer is mandatory. Maintenance Department personnel will in turn assist.
- ❖ **All** contractors are expected to use courtesy. Loud and abusive language will not be tolerated.
- ❖ Contractors must provide assurance not to block corridors and fire exits.

- ❖ Any life safety code violations incurred during construction or renovation will result in close coordination with plant operations interim life safety measures. The measures are required by JCAHO.
- ❖ All contractors working above the ceiling are required to replace all disturbed ceiling tile.
- ❖ All penetrations in smoke partitions are to be sealed with fire stop before final payment is made.
- ❖ Upon completion of daily activities contractors are asked to check out and report progress to the Plant Facility Engineer's office.
- ❖ When working in the building and on the grounds, it is important to remember that Riverview is a Children's Facility.
- ❖ Contact between patients and workers is to be avoided whenever possible. It is difficult to predict the reactions of our patients to novel situations or unknown persons. A worker and patient should never be alone without staff.
- ❖ All workers must assure that tools and supplies are maintained in a secure manner. Tools should not be left unattended.
- ❖ If you need assistance from Riverview staff, please report to the reception areas in the Administration Building.
- ❖ Please do not report to patient areas.
- ❖ MSDS sheets must be provided for any materials used on grounds before materials are brought on grounds.
- ❖ Contractors must show proof of proper licenses before the start of work.

**SUBJECT: Outside Contractors - Hazard Communications Program**

**POLICY:**

- ❖ It is the responsibility of the **Plant Facility Engineer's** to provide on-site contractors with the following information:



- ❖ Hazardous chemicals to which they may be exposed while on the job site.
  - Precautions shall be taken by the contractor and his/her employees may take to lessen the possibility of exposure to lead or asbestos by usage of appropriate protective measures.
  
- ❖ It is the responsibility of the **Plant Facility Engineer** to contact each contractor before work is started to gather and disseminate information concerning hazards that the contractor will bring into the workplace. MSDS sheets will be given to the **Plant Facility Engineer's office before materials are received on site.**

Compliance with the OSHA Hazard Communications Standard is certified by:

**Plant Facility Engineer's Signature**

**Date**

---

**Contractors Signature**

**Date**

---



## State of Connecticut

Department of Children and Families  
Riverview Hospital  
915 River View,

### CERTIFICATE OF COMPLETION

**Project No.:** 12-RVHC-052

**Type of Project (emergency, bid, T&M):** Bid ó Basement Office HVAC System Renovations

**Final Contract Value:**

**Specific Location:** 915 River Road, Middletown, CT

As the duly authorized representative of the State of Connecticut, owner of the project above referenced, I hereby certify that work has been entirely completed for this project on contracts as follows:

**Contractor**

**Description/Location of Work**

Install DX system and associated duct work. Re insulate chilled water lines. Install new drop ceiling

in accordance with all approved plans, specifications and contract documents, and these contracts are accepted as of \_\_\_\_\_.

**Date:** \_\_\_\_\_

**Plant Facility Engineer**

**By:** \_\_\_\_\_  
**Mike Bartolotta**



Department of Public Works  
State of Connecticut

# Certificate of Compliance for Agency Administered Projects (Non-threshold Projects Only)

**Date Submitted to DPW:**

<b>To:</b>	Edward Curley DPW/Special Projects Coordinator	<b>Project No:</b>	14-RVHC-065
<b>Address:</b>	Department of Public Works 165 Capitol Avenue Hartford, CT 06106	<b>Project Name:</b> (Location)	Riverview Grease Separator
<b>Attn Client Team:</b>		<b>Contract For:</b> (Type of Construction)	New Installation
<b>From Agency:</b>	Department of Children and Families		
<b>Address:</b>	505 Hudson Street, Hartford, CT 06106		

**PART "1" - Design Phase (Prior to Bid Phase):**

THIS IS TO CERTIFY THAT to the best of my knowledge, information, and belief, the above-described project has been designed in substantial compliance with requirements of the State of Connecticut Basic Building Code and all other applicable codes as required by Chapter 541, General Statutes of Connecticut.

<b>Commissioner's Agent:</b>	Greg Messner _____	_____ (Signature)	_____ (Date)
	(Typed Name)		
<b>Architect/Engineer:</b>	n/a _____	_____ (Signature)	_____ (Date)
	(Typed Name)		
<b>Registration Number:</b>	n/a _____		

**PART "2" - Construction Completion (Prior to Agency Occupancy and/or Certificate of Occupancy Application):**

THIS IS TO CERTIFY THAT to the best of my knowledge, information, and belief the completed project -described above is in substantial compliance with the approved plans and specifications and the requirements of the State of Connecticut Basic Building Code and all other applicable codes as required by Chapter 541, General Statutes of Connecticut.

<b>Architect/Engineer:</b>	n/a _____	_____ (Signature)	_____ (Date)
	(Typed Name)		
<b>Registration Number:</b>	n/a _____		
<b>General Contractor:</b>	_____ (Typed Name)	_____ (Signature)	_____ (Date)
<b>License Number:</b>	_____		
<b>Commissioner's Agent:</b>	Greg Messner _____	_____ (Signature)	_____ (Date)
	(Typed Name)		

**Copies :**     DPW (Original)     DPS/OSBI     General Contractor     Architect/Engineer     File

SECTION 07920  
JOINT SEALANTS

PART 1 - GENERAL

1.01 SUMMARY

- A. Work Included: The Work of this Section includes, but is not limited to, the following:
1. Interior and exterior joint sealants and backings in horizontal and vertical surfaces, as indicated and required.
  2. Primers, bond breakers, backer rods, sound seals and other accessory materials for interior and exterior joints.

1.02 SYSTEM PERFORMANCE REQUIREMENTS

- A. Provide joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staining or deterioration of joint substrates.
- B. Sealants used as weather seals shall not experience adhesive or cohesive failure. Sealants shall withstand movements up to the limits prescribed by the manufacturer. Exposed sealant surface shall not crack or bubble. Sealants and primers shall not stain adjacent materials. Sealants shall not be adhered to, or placed against, the edge of a laminated glass unit interlayer.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's technical data for each product required, including instructions for preparation and application.
- B. Samples:
1. Submit samples for initial selection purposes in form of manufacturer's standard bead samples, consisting of strips of actual products showing full range of manufacturer's standard colors available, for each product exposed to view.
  2. Submit samples for verification purposes of each type and color of joint sealant required. Install joint sealant samples in 1/2-inch wide joints formed between two 6-inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Certificates: Submit certificates from manufacturers that their products comply with specifications and are suitable for the use indicated.

- D. Test Reports: Submit joint sealer-substrate test results to verify compatibility of proposed joint sealants with substrates. Manufacturer shall conduct tests and provide reports complying with the following:
1. Compatibility and adhesion test reports from elastomeric sealant manufacturer indicating that materials forming joint substrates and joint sealant backings have been tested for compatibility and adhesion with joint sealants. Include sealant manufacturer's interpretation of test results relative to sealant performance and recommendations for primers and substrate preparation needed to obtain adhesion.
  2. Preconstruction field test reports indicating which products and joint preparation methods demonstrate acceptable adhesion to joint substrates.

#### 1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has completed joint sealant applications similar in material, design, and extent to that indicated for Project that have resulted in construction with a record of successful in-service performance.
- B. Testing Laboratory Qualifications: To qualify for acceptance, an independent testing laboratory must demonstrate to Architect's satisfaction, based on evaluation of laboratory-submitted criteria conforming to ASTM E 699, that it has the experience and capability to conduct satisfactorily the testing indicated without delaying progress of the Work.
- C. Single Source Responsibility for Joint Sealant Materials: Obtain each different primary joint sealant materials required from a single manufacturer; obtain auxiliary/secondary materials as recommended by, and acceptable to, the prime materials manufacturer.
- D. Preconstruction Field Testing: Prior to installation of joint sealants, field-test their adhesion to joint substrates as follows:
1. Locate test joints where indicated or, if not indicated, as directed by Architect.
  2. Conduct field tests for each application indicated below:
    - a. Each type of elastomeric sealant and joint substrate indicated.
  3. Notify Architect one week in advance of the dates and times when mock-ups will be erected.
  4. Arrange for tests to take place with joint sealant manufacturer's technical representative present.
  5. Test Method: Test joint sealants by hand pull method described below:

- a. Install joint sealants in 60 inches joint lengths using same materials and methods for joint preparation and joint sealant installation required for completed Work. Allow sealants to cure fully before testing.
  - b. Make knife cuts horizontally from one side of joint to the other followed by 2 vertical cuts approximately 2 inches long at side of joint and meeting horizontal cut at top of 2-inch cuts. Place a mark 1 inch from top of 2-inch piece.
  - c. Use fingers to grasp 2" piece of sealant just above 1-inch mark; pull firmly down at a 90-degree angle or more while holding a ruler along side of sealant. Pull sealant out of joint to the distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum movement capability in extension; hold this position for 10 seconds.
6. Report whether or not sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate.
  7. Evaluation of Field Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.
- E. Stainability Tests: Prior to installation of joint sealants, field-test sample applications of sealant on stone and other porous substrate samples of types of substrates to be used in the Project to test stainability of substrates by sealants proposed to be use in the finished work. Submit test samples for evaluation.
- F. Field-Constructed Mock-Ups: Prior to installation of joint sealants, apply elastomeric sealants as follows to verify selections made under sample submittals and to demonstrate aesthetic effects as well as qualities of materials and execution:
1. Joints in field-constructed mock-ups of assemblies specified in other Sections that are indicated to receive elastomeric joint sealants specified in this Section.
- G. Pre-Installation Conference: Before beginning the sealant installation, conduct a preinstallation conference at a location determined by the Architect with the sealant manufacturer(s), installer, aluminum system manufacturer's representative, precast panel manufacturer and other interested parties to review procedures, schedules, and coordination of the sealant with other elements of the Work.

## 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multi-component materials.
- B. Store and handle materials in compliance with manufacturer's recommendations to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

## 1.06 PROJECT CONDITIONS

- A. Environmental Conditions: Do not install joint sealers when air and surface temperatures are outside the limits permitted by joint sealer manufacturer, or when joint substrates are wet or dirty.
- B. Joint Widths: Do not proceed with installation of joint sealers when joint widths are not as allowed by joint sealer manufacturer.

## 1.07 WARRANTY

- A. Submit a written warranty agreeing to repair or replace defective joint sealer materials or workmanship; including staining, loss of adhesion, loss of cohesion, cracking or discoloration, for a period of 5 years from the date of Substantial Completion.
- B. The warranty should include a provision that the period of such warranty shall commence with the Owners final acceptance of all work covered under the Contract or at such other date or dates as the Owner may specify in writing prior to that time.
- C. The following types of failure will be adjudged as defective work:
  - 1. Abnormal deterioration, aging or weathering of the work.
  - 2. Water leakage under conditions equivalent to, or less severe than, those specified.
  - 3. Air leakage exceeding specified limits.
  - 4. Sealant loss of adhesion, loss of cohesion, cracking or discoloration.
  - 5. Staining of sealed substrates by sealant or primer.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering joint sealant products that may be incorporated in the work include, the following:

1. Bostik Construction Product Div.
2. Dow Corning Corp.
3. General Electric Co.
4. Pecora Corporation.
5. Tremco Inc.
6. W.R. Meadows Inc.

## 2.02 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
- B. Colors: Provide colors of joint sealers as selected by the Architect, from manufacturer's standard colors.

## 2.03 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing elastomeric sealants that comply with ASTM C 920 and other requirements indicated including those requirements referencing classifications of ASTM C 920 for Type, Grade, Class, and Uses.
- B. One-Part Non-Acid-Curing Silicone Sealant: Type S; Grade NS; Class 50; Medium modulus and complying with the following requirements:
1. Uses: For all joints except as otherwise indicated.
  2. Additional Capability: When tested per ASTM C 719, to withstand 50 percent increase and decrease of joint width.
  3. Products: Subject to compliance with requirements, provide one of the following one-part non-acid-curing silicone sealants:
    - a. "Dow Corning 791/795"; Dow Corning Corp.
    - b. "Silpruf"; General Electric Co.
    - c. "Pecora 865/895"; Pecora Corporation.
- C. Two-Part Nonsag Urethane Sealant: Type M; Grade NS; Class 25.
1. Additional Capability: When tested per ASTM C 719, to withstand 50



percent increase and decrease of joint width as measured at time of application.

2. Use: At all exterior vertical joints between masonry, windows, storefronts and curtainwalls, unless otherwise indicated.
3. Products: Subject to compliance with requirements, provide one of the following:
  - a. "Dymeric 511"; Tremco, Inc.
  - b. "Dynatrol II"; Pecora Corporation.
  - c. "DUALTHANE"; W.R. Meadows Inc.

#### 2.04 LATEX JOINT SEALANTS

- A. Acrylic-Emulsion Sealant: One part, nonsag sealant complying with ASTM C 834, paintable and recommended for interior applications with joint movement of not more than plus or minus 5 percent.
  1. Products: Subject to compliance with requirements, provide one of the following:
    - a. "Chem-Calk 600"; Bostik Construction Products Div.
    - b. "AC-20"; Pecora Corp.
    - c. "Tremco Acrylic Latex 834"; Tremco Inc.

#### 2.05 MISCELLANEOUS JOINT SEALANTS

- A. Fire-resistant Joint Sealants, General: Provide sealant with fire-resistance rating identical to assemblies tested per ASTM E 814 by Underwriters Laboratory, Inc. or other testing agency acceptable to authorities.
  1. Fire-Stopping Sealant: One or two-part, foamed-in-place, silicone sealant for filling or sealing openings around cables, conduit, pipes and similar penetrations through walls and floors.
    - a. Refer to Section 07841 - Through-Penetration Firestop Systems, for materials and requirements.
- B. Butyl-Polyisobutylene Sealant: Manufacturer's standard, solvent- release-curing, butyl-polyisobutylene sealant complying with AAMA 809.2, for concealed metal to metal joints.
- C. Acoustical Joint Sealants, General: Provide sealants that comply with the requirements specified herein and as specified in Section 09260 - Gypsum Board Assemblies.
  1. Concealed Acoustical Sealant: ASTM C 834, nonhardening, non-skinning, nonstaining, non-bleeding, gunnable sealant for concealed

applications per ASTM C 919.

2. Exposed Acoustical Sealant: Nonoxidizing, skinnable, paintable, gunnable sealant for exposed applications per ASTM C 919.

## 2.06 COMPRESSION SEALS AND JOINT FILLERS

- A. Preformed Foam Sealant: Precompressed, open-cell foam sealant of high-density urethane foam with a nondrying, water repellent agent; precompressed to develop a watertight and airtight seal.
  1. Properties: Permanently elastic, mildew-resistant, non-migratory, nonstaining, compatible with joint substrates and other sealers.
  2. Products: Subject to compliance with requirements, provide one of the following, of size to suit joint dimensions:
    - a. "Emseal Greyflex"; Emseal Corp.
    - b. "Will-Seal Tape Type 150"; Illbruck.
- B. Joint Filler for Paving: Preformed strips of sponge rubber complying with ASTM D 1752, of size and shapes as shown.
- C. Back-Bedding Mastic Tape Sealant: Preformed, butyl-based elastomeric tape sealant with a solids content of 100 percent; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape manufacturers for application indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
  1. AAMA 806.3 tape, for applications in which tape is subject to continuous pressure.
  2. AAMA 807.3 tape, for applications in which tape is not subject to continuous pressure.

## 2.07 JOINT SEALANT BACKING

- A. General: Provide backings which are non-staining; are compatible with joint substrates, sealants, primers and other joint fillers; and are approved for applications indicated by sealant manufacturer.
- B. Plastic Foam Joint-Fillers: Preformed, compressible, resilient, non-waxing, non-extruding strips of plastic foam of material indicated below, and of size, shape and density to control sealant depth.
  1. Flexible, non-gassing, closed-cell polyethylene foam, unless otherwise indicated.

- a. Provide color as selected by the Architect from the manufacturer's full range of colors.
- C. Tubing Joint-Fillers: Neoprene, EPDM or silicone tubing complying with ASTM D 1056, non-absorbent to water and gas, resilient at temperatures down to -26 deg F., of size and shape to provide a secondary seal.
- D. Bond-Breaker Tape: Polyethylene tape or other plastic tape to prevent bond between sealant and materials at back of joint. Provide self-adhesive tape where applicable.

## 2.08 MISCELLANEOUS MATERIALS

- A. Primer: Provide type recommended by joint sealer manufacturer where required for adhesion of sealant to joint substrates, as determined from preconstruction joint sealer-substrate and field tests.
- B. Cleaners: Provide non-staining cleaner of type acceptable to manufacturer of sealant and sealant backing materials.
- C. Masking Tape: Provide non-staining, non-absorbent type compatible with joint sealants and to surfaces adjacent to joints.
- D. Accessory Materials for Fire-Stopping Sealants: Provide accessory materials required for installation of fire-stopping sealants, refer to "Section 07840 - Through-Penetration Firestop Systems".

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint sealant performance. Do not proceed with installation of joint sealants until unsatisfactory conditions have been corrected.

### 3.02 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with recommendations of joint sealant manufacturer and the following requirements:
  - 1. Remove all foreign material from joint substrates that could interfere with

adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

2. Clean concrete, masonry, and similar porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
3. Remove laitance and form release agents from concrete.
4. Clean metal, glass, and other nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
5. Joint Priming: Prime all joint substrates whether or not indicated or recommended by joint sealant manufacturer. Apply primer to comply with joint sealant manufacturer's recommendations.
6. Confine primers to areas of joint sealant bond; do not allow spillage or migration onto adjoining surfaces.

B. Masking Tape: Use masking tape where required to prevent contact of primers, cleaners and joint sealants with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears.

1. Remove tape immediately after tooling without disturbing joint seal.

### 3.03 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint sealant manufacturer's printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Installation of Sealant Backings: Install sealant backings to comply with the following requirements:
  1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
  2. Do not leave gaps between ends of joint fillers.
  3. Do not stretch, twist, puncture, or tear joint fillers.

4. Remove absorbent joint fillers that have become wet prior to sealant application and replace with dry material.
- D. Install bond breaker tape behind joint sealants where backings are not to be used between sealants and back of joints.
  - E. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability. Install sealants at the same time sealant backings are installed.
  - F. Tooling of Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents that discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.
    1. Provide joint configuration as indicated on the drawings, and complying with ASTM C 1193.
      - a. Concave Joints: As per the referenced standard; Figure 5A, where indicated.
      - b. Recessed Joints: As per the referenced standard; Figure 5C, with recess depth of 1/4" from face material; and at locations indicated. Use masking tape to protect adjacent surfaces of recessed tooled joints.
      - c. Flush Joints: As per the referenced standard; Figure 5B, where indicated.
  - G. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping, taking care not to pull or stretch material, and to comply with sealant manufacturer's directions for installation methods, materials, and tools that produce seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures where expansion of sealant requires acceleration to produce seal, apply heat to sealant in conformance with sealant manufacturer's recommendations.
  - H. Installation of Fire-Stopping Sealant: Install sealant and accessory materials to fill openings penetrating floors and walls to provide fire-stops with required fire resistance ratings. Refer to "Section 07840 - Through-Penetration Firestop Systems" for additional requirements.

- I. Installation of Acoustic Sealant: Install sealant and accessory materials to fill openings penetrating floors and walls to provide air-stops with required acoustic ratings.
  1. Acoustical sealant shall be applied in continuous beads. The material shall be resilient and non-setting.
  2. Seal sound-rated partitions on both sides where facings abut dissimilar materials. Fill void with 1/4" minimum to 3/8" maximum round bead of sealant, as required.
  3. Seal at the following locations:
    - a. Around the perimeter, in the angle formed by panels and abutting dissimilar materials.
    - b. At all intersections, and all penetrations of floor, ceiling, walls, columns.
    - c. At all panel terminations in door and window frames, and at control joint to panels.
    - d. Around all cutouts for lights, cabinets, pipes and plumbing, HVAC ducts, electrical boxes, etc.

#### 3.04 CLEANING

- A. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.

#### 3.05 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so that and installations with repaired areas are indistinguishable from original work.

END OF SECTION

SECTION 09511  
ACOUSTICAL PANEL CEILING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Acoustical panel ceilings installed with exposed suspension systems. Existing suspension system shall remain. New acoustical panels shall be installed in areas listed in the schedule in Part 3.5. This is to facilitate the reinsulation of all chilled water lines.

1.3 SUBMITTALS

A. General: Submit the following:

1. Product data for each type of product specified.
2. Coordination drawings for reflected ceiling plans drawn accurately to scale and coordinating penetrations and ceiling-mounted items. Show the following:
  - a. Ceiling suspension members.
  - b. Method of attaching hangers to building structure.
  - c. Ceiling-mounted items including light fixtures; air outlets and inlets; speakers; sprinkler heads; and special moldings at walls, column penetrations, and other junctures with adjoining construction.
  - d. Scale: 1/8 inch = 1'-0".
3. Samples for verification purposes of each type of exposed finish required, prepared on samples of size indicated below and of same thickness and material indicated for final unit of Work. Where finishes involve normal color and texture variations, include sample sets showing full range of variations expected.
  - a. Full-size samples of each panel pattern and color required.
  - b. Set of 12-inch-long samples of exposed suspension system members, including moldings, for each color and system type required.

4. Qualification data for firms and persons specified in "Quality Assurance" article to demonstrate their capabilities and experience. Include list of completed projects with project names, addresses, names of Architects and Owners, and other information specified.
5. Research reports or evaluation reports of the model code organization acceptable to authorities having jurisdiction that show compliance of acoustical ceiling system and components with building code in effect for Project.
6. Product test reports from qualified independent testing laboratory that are based on its testing of current products for compliance of acoustical ceiling systems and components with requirements.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has successfully completed acoustical ceilings similar in material, design, and extent to those indicated for Project.
- B. Fire-Performance Characteristics: Provide acoustical ceilings that are identical to those tested for the following fire-performance characteristics, per ASTM test method indicated below, by UL or other testing and inspecting organizations acceptable to authorities having jurisdiction. Identify acoustical ceiling components with appropriate markings of applicable testing and inspecting organization.
  1. Surface Burning Characteristics: As follows, tested per ASTM E 84 and complying with ASTM E 1264 for Class A products.
    - a. Flame Spread: 25 or less.
    - b. Smoke Developed: 50 or less.
- C. Single-Source Responsibility for Ceiling Units: Obtain each type of acoustical ceiling unit from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.
- D. Single-Source Responsibility for Suspension System: Obtain each type of suspension system from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.
  1. Obtain suspension system from same manufacturer that produces acoustical ceiling units.
- E. Coordination of Work: Coordinate layout and installation of acoustical ceiling units and suspension system components with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system components, and partition system.



F. Preinstallation Conference: Conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings."

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical ceiling units carefully to avoid chipping edges or damaging units in any way.

#### 1.6 PROJECT CONDITIONS

- A. Space Enclosure: Do not install interior acoustical ceilings until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient conditions of temperature and humidity will be continuously maintained at values near those indicated for final occupancy.

#### 1.7 EXTRA MATERIALS

- A. Deliver extra materials to Owner. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with appropriate labels.
  - 1. Acoustical Ceiling Units: Furnish quantity of full-size units equal to 10 percent of amount installed.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Ceiling tile shall match existing.

#### 2.2 METAL SUSPENSION SYSTEMS, GENERAL

- A. Standard for Metal Suspension Systems: Provide manufacturer's standard metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable ASTM C 635 requirements. Equivalent to USG DXI grid or rated equivalent
- B. Finishes and Colors: Provide manufacturer's standard factory-applied finish for type of system indicated.

1. High-Humidity Finish: Comply with ASTM C 635 requirements for "Coating Classification for Severe Environment Performance" where high-humidity finishes are indicated.
- C. Attachment Devices: Size for 5 times design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.
  1. Powder-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attachment of hangers of type indicated, and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing per ASTM E 1190, conducted by a qualified testing laboratory.
- D. Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft temper.
  1. Gage: Provide wire sized so that stress at 3 times hanger design load (ASTM C 635, Table 1, Direct-Hung), will be less than yield stress of wire, but provide not less than 0.106-inch diameter (12 gage).
- E. Hanger Rods: Mild steel, zinc coated, or protected with rust-inhibitive paint.
- F. Flat Hangers: Mild steel, zinc coated, or protected with rust inhibitive paint.
- G. Angle Hangers: Angles with legs not less than 7/8 inch wide, formed with 0.0365-inch-thick galvanized steel sheet complying with ASTM A 446, Coating Designation G90, with bolted connections and 5/16-inch-diameter bolts.
- H. Edge Moldings and Trim: Metal or extruded aluminum of types and profiles indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that fit type of edge detail and suspension system indicated.
  1. For lay-in panels with reveal edge details, provide stepped edge molding that forms reveal of same depth and width as that formed between edge of panel and flange at exposed suspension member.
  2. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.

## 2.3 MISCELLANEOUS MATERIALS

- A. Concealed Acoustical Sealant: Nondrying, nonhardening, nonskinning, nonstaining, nonbleeding, gunnable sealant complying with requirement specified in Division 7 Section "Joint Sealers."

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and structural framing to which ceiling system attaches or abuts, with Installer present, for compliance with requirements specified in this and other

sections that affect installation and anchorage of ceiling system. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Coordination: Furnish layouts for preset inserts, clips, and other ceiling anchors whose installation is specified in other sections.
  - 1. Furnish concrete inserts and similar devices to other trades for installation well in advance of time needed for coordination of other work.
- B. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less-than-half-width units at borders, and comply with reflected ceiling plans.

### 3.3 INSTALLATION

- A. General: Install acoustical ceiling systems to comply with installation standard referenced below, per manufacturer's instructions and CISCA "Ceiling Systems Handbook."
  - 1. Standards for Installation of Ceiling Suspension Systems: Comply with ASTM C 636 and ASTM E 580.
- B. Arrange acoustical units and orient directionally patterned units in a manner shown by reflected ceiling plans.
  - 1. Install acoustical wall panels in locations indicated with vertical surfaces and edges plumb, top edges level, and in alignment with other panels, scribed to fit adjoining work accurately at borders and at penetrations. Comply with panel manufacturer's printed instructions for installation of panels using type of munting accessories indicated or, if none indicated, as recommended by manufacturer.
    - a. Cut units to be at least 50 percent of unit width, with facing material extended over cut edge to match uncut edge. Scribe acoustical wall units to fit adjacent work. Butt joints tightly.
- C. Suspend ceiling hangers from building structural members and as follows:
  - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
  - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or

equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.

3. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews, or other devices that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
  4. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eyescrews, or other devices that are secure and appropriate for structure to which hangers are attached as well as for type of hanger involved, and in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
  5. Do not support ceilings directly from permanent metal forms; furnish cast-in-place hanger inserts that extend through forms.
  6. Do not attach hangers to steel deck tabs.
  7. Do not attach hangers to steel roof deck. Attach hangers to structural members.
  8. Space hangers not more than 4'-0" o.c. along each member supported directly from hangers, unless otherwise shown, and provide hangers not more than 8 inches from ends of each member.
- D. Seismic Performance: Provide additional hangers, splay bracing, cross wire bracking, mechanical interlocking connectors at suspension grid intersections, horizontal struts at exits and other components and installation methods necessary to comply with referenced standards, details on the drawings and applicable BOCA building code Requirements for suspended ceilings in Seismic Zone 2.
- E. Install edge moldings of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical units.
1. Sealant Bed: Apply continuous ribbon of acoustical sealant, concealed on back of vertical leg before installing moldings.
  2. Screw-attach moldings to substrate at intervals not over 16 inches o.c. and not more than 3 inches from ends, leveling with ceiling suspension system to tolerance of 1/8 inch in 12'-0". Miter corners accurately and connect securely.
- F. Install acoustical panels in coordination with suspension system, with edges concealed by support of suspension members. Scribe and cut panels to fit accurately at borders and at penetrations.

1. Install hold-down clips in areas indicated and in areas where required by governing regulations or for fire-resistance ratings; space as recommended by panel manufacturer, unless otherwise indicated or required

#### 3.4 CLEANING

- A. Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members. Comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

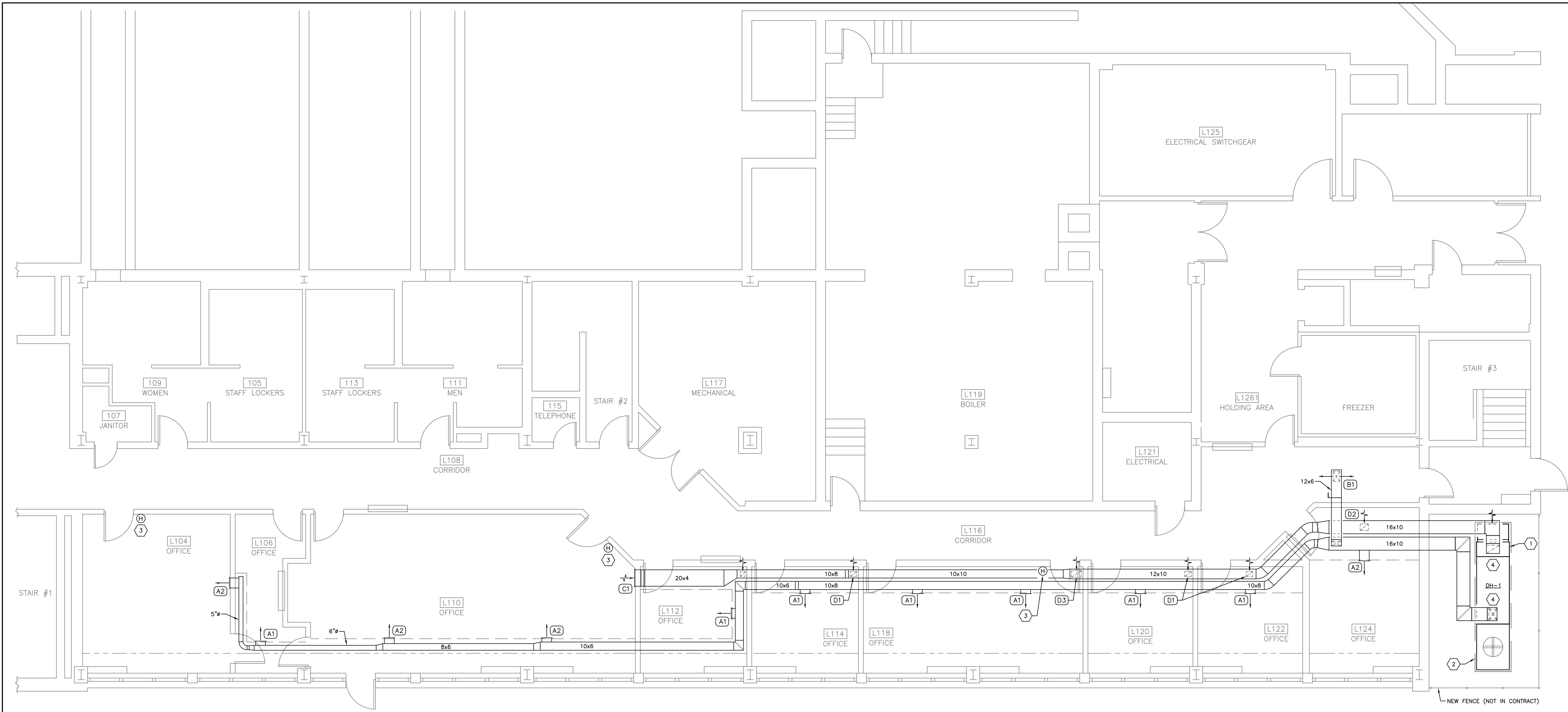
#### 3.5 SCHEDULE

- A. Remove, dispose and replace all 2x2 ceiling tile in corridor L108 and L116. (Existing grid to remain. Any grid members damaged by construction shall be replaced.)
- B. Remove, dispose and replace all 2x4 ceiling tile in rooms L110, L122 and L124. (Existing grid to remain. Any grid members damaged by construction shall be replaced.)

**END OF SECTION**

REVISIONS		
NO.	DATE	DESCRIPTION

<b>DATE:</b>	23 JULY 07
<b>PROJECT NO:</b>	27016.00
<b>DRAWN:</b>	JJR
<b>CHECKED:</b>	JJR
<b>ISSUED FOR:</b>	CONSTRUCTION
<b>REVISIONS:</b>	-



**1 LOWER LEVEL DEHUMIDIFIER MECHANICAL PLAN**  
 SCALE: 3/16"=1'-0"

GRILLE, REGISTER, & DIFFUSER SCHEDULE							
SYMBOL	MANUFACTURER	MODEL	SIZE (IN)	CFM	SPD (IN WG)	THROW (FT)	REMARKS
(A1)	PRICE	LBP	2	30	0.02	8	<20 1
(A2)	PRICE	LBP	3	60	0.02	10	<20 1
(B1)	PRICE	AMD	12x9	300	0.07	15	<20 2
(C1)	PRICE	610Z	20x6	300	0.03	-	<20 -
(D1)	PRICE	635	8x6	60	0.02	-	<20 -
(D2)	PRICE	635	10x8	90	0.02	-	<20 -
(D3)	PRICE	635	12x8	120	0.02	-	<20 -
MANUFACTURER	MODEL	DESCRIPTION					
PRICE	LBP	LINEAR BAR GRILLE, 0° DEFLECTION BARS ON 1/2" CENTERS (CORE 15B), 1/2" BORDER (500) WITH SPRING CLIP FASTENER (TYPE D) AND INTEGRAL MOUNTING FRAME, INTEGRAL OPPOSED BLADE VOLUME DAMPER, EXTRUDED ALUMINUM, WHITE					
PRICE	AMD	CEILING DIFFUSER, LOUVERED FACE DIRECTIONAL TYPE, SURFACE MOUNT, RECTANGULAR FACE, ALUMINUM, WHITE					
PRICE	610Z	RETURN GRILLE, 0° FIXED BLADES ON 3/4" CENTERS, BLADES PARALLEL TO SHORT DIMENSION, INTEGRAL OPPOSED BLADE VOLUME DAMPER, SURFACE MOUNT, ALUMINUM, WHITE					
PRICE	635	RETURN GRILLE, 45° FIXED BLADES ON 1/2" CENTERS, BLADES PARALLEL TO LONG DIMENSION, INTEGRAL OPPOSED BLADE VOLUME DAMPER, SURFACE MOUNT, ALUMINUM, WHITE					
<b>REMARKS:</b> 1: 12" LONG 2: TWO WAY OPPOSITE THROW (PRICE PATTERN 2B)							
<b>PERFORMANCE NOTES:</b> • THROWS ARE AT A TERMINAL VELOCITY OF 100 FPM AND ISOTHERMAL CONDITIONS • NC (SOUND PRESSURE) LEVELS ARE BASED ON A ROOM ABSORPTION OF 10dB RE 10E-12 WATTS							

DEHUMIDIFICATION UNIT (DH-1) SCHEDULE	
MODEL:	DESERT-AIRE TOTALAIRE OSSC, SIZE 24 CABINET, NOMINAL 5 TON COOLING CAPACITY
GENERAL DESCRIPTION:	PACKAGED DIRECT EXPANSION UNIT DESIGNED FOR 100% OUTSIDE AIR, WITH REFRIGERANT REHEAT COIL FOR SPACE HUMIDITY CONTROL, HOT WATER COIL, FILTERS, AND OUTSIDE AIR INTAKE HOOD.
INDOOR FAN:	TOP SUPPLY AIR CONNECTION, 750 CFM AT 1.00" ESP, 1/2 HP
COOLING CAPACITY:	74.1 MBH TOTAL, 35.2 MBH SENSIBLE, AT 750 CFM, 87°F EDB, 76°F EDB,
HOT WATER COIL:	2 ROW, 75,600 BTUH, 0.07" APD, 0.9" WPD, AT 7.5 GPM, 180°F EWT, 160°F LWT, 40% GLYCOL, AND 700 CFM, -10°F EAT
FILTERS:	4" DEEP PLEATED DISPOSABLE, MERV-6
ELECTRICAL:	SINGLE POINT POWER CONNECTION, 29.5 MCA, 50A MOP, 208/3
CONTROLS:	PROVIDE MICROPROCESSOR BASED CONTROLS NECESSARY FOR THE SEQUENCE OF OPERATION
ACCESSORIES:	NON-FUSED DISCONNECT, GFI CONVENIENCE RECEPTACLE, START-UP BY LOCAL FACTORY TRAINED COMPANY

SOFFIT LINETYPE LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING SOFFIT
---	NEW SOFFIT

- GENERAL NOTES**
- SEE PIPING AND ELECTRICAL PLAN FOR NOTES REGARDING DEMOLITION AND RECONSTRUCTION OF EXISTING SOFFITS
  - REMOVE THE EXISTING CEILING AT THE LOCATIONS OF THE NEW DUCTWORK. MOUNT THE NEW DUCTWORK AS HIGH AS POSSIBLE. PROVIDE GYPSUM WALLBOARD SOFFITS AT THE NEW DUCTWORK. AT THE EXTERIOR WALL, THE NEW SOFFIT WILL ENCLOSE BOTH THE NEW DUCTWORK AND THE EXISTING REINSULATED CHILLED WATER AND CONDENSATE PIPING.
  - THE DRAWINGS ARE DIAGRAMMATIC. THE INSTALLATION OF THE NEW DUCTWORK WILL LIKELY REQUIRE NUMEROUS RELOCATIONS OF EXISTING ELECTRICAL CONDUIT AND WRING, PLUMBING PIPING, HEATING PIPING, CHILLED WATER PIPING, AND CONDENSATE PIPING. AN ALLOWANCE SHALL BE INCLUDED IN THE BID FOR SUCH ITEMS.
  - UNFORSEEN CONDITIONS WILL LIKELY ARISE WHEN THE EXISTING CEILING AND SOFFITS ARE REMOVED. AN ALLOWANCE FOR RELOCATING THE NEW DUCTWORK AND/OR THE NEW PIPING AS NECESSARY TO ACCOMMODATE THE UNFORSEEN CONDITIONS SHALL BE INCLUDED IN THE BID.

- KEY NOTES**
- FABRICATE A CUSTOM RETURN AIR SECTION TO BE INSERTED BETWEEN THE OUTSIDE AIR INTAKE HOOD/DAMPER ASSEMBLY AND THE FILTER SECTION OF DH-1. THE METAL GAUGE AND THE FLANGES OF THE SECTION SHALL BE THE SAME AS DH-1, AND THE SECTION SHALL BE FINISHED TO MATCH DH-1 WITH PAINT PROVIDED BY THE FACTORY. SUPPORT THE SECTION OFF OF THE CONCRETE PAD WITH ISOLATORS SIMILAR TO THOSE USED FOR DH-1. THE CUSTOM SECTION SHALL INCLUDE A 16X10 RETURN AIR CONNECTION ON THE TOP WITH A LOW LEAKAGE (BLADE AND JAMB SEALS) CONTROL DAMPER WITH DIRECT DRIVE MODULATING ACTUATOR.
  - 4" THICK REINFORCED CONCRETE PAD WITH 1" CHAMFERED EDGES. SUPPORT DH-1 ON CONCRETE PAD AT UNIT BASE SUPPORT POINTS WITH NEOPRENE VIBRATION ISOLATORS.
  - ONE OF THREE AVERAGING SPACE RELATIVE HUMIDITY SENSORS, WITH VENTED SECURITY COVERS
  - PROVIDE FLEXIBLE DUCT CONNECTIONS AT THE CONNECTIONS TO THE DEHUMIDIFICATION UNIT

- SEQUENCE OF OPERATION**
- GENERAL
    - OCCUPIED/UNOCCUPIED MODE FROM THE BUILDING MANAGEMENT SYSTEM (BMS)
  - SUPPLY FAN
    - OCCUPIED: ON
    - UNOCCUPIED: OFF EXCEPT ON CALL FOR DEHUMIDIFICATION
  - MIXING DAMPERS
    - OCCUPIED: 100% OUTSIDE AIR, 0% RETURN AIR POSITION
    - UNOCCUPIED: 0% OUTSIDE AIR, 100% RETURN AIR POSITION
  - HOT WATER COIL
    - OCCUPIED
      - THREE WAY CONTROL VALVE: SHALL MODULATE TO MAINTAIN THE SUPPLY AIR TEMPERATURE RESET INVERSELY WITH THE OUTSIDE AIR TEMPERATURE AS FOLLOWS:  
 AT 20°F OAT (AND BELOW), THE SAT SHALL BE 70°F.  
 AT 60°F OAT, THE SAT SHALL BE 60°F.  
 OVER 60°F OAT, THE CONTROL VALVE SHALL BE CLOSED
    - TWO WAY CONTROL VALVE: SHALL BE OPEN ON CALL FOR HYDRONIC HEATING, CLOSED OTHERWISE
    - PUMP: SHALL BE ON ON CALL FOR HYDRONIC HEATING, OFF OTHERWISE
  - UNOCCUPIED
    - THREE WAY CONTROL VALVE: 0% BYPASS POSITION
    - TWO WAY CONTROL VALVE: CLOSED
    - PUMP: OFF
  - DEHUMIDIFICATION - OCCUPIED & UNOCCUPIED
    - AT OUTSIDE AIR TEMPERATURES ABOVE 40°F, THE DEHUMIDIFICATION CYCLE SHALL OPERATE TO MAINTAIN THE AVERAGE SPACE RELATIVE HUMIDITY AT MAXIMUM 50%
    - AT OUTSIDE AIR TEMPERATURES ABOVE 60°F, WHEN THE DEHUMIDIFICATION CYCLE IS OPERATING, THE UNIT SHALL OPERATE TO MAINTAIN A CONSTANT DISCHARGE AIR TEMPERATURE OF 75°F
    - AT OUTSIDE AIR TEMPERATURES BETWEEN 40°F AND 60°F, WHEN THE DEHUMIDIFICATION CYCLE IS OPERATING, THE UNIT SHALL OPERATE TO MAINTAIN A CONSTANT DISCHARGE AIR TEMPERATURE OF 72°F
    - AT OUTSIDE AIR TEMPERATURES BELOW 40°F, THE COMPRESSOR SHALL NOT OPERATE

**DEPARTMENT  
 OF CHILDREN  
 & FAMILIES**  
 505 HUDSON STREET  
 HARTFORD, CT

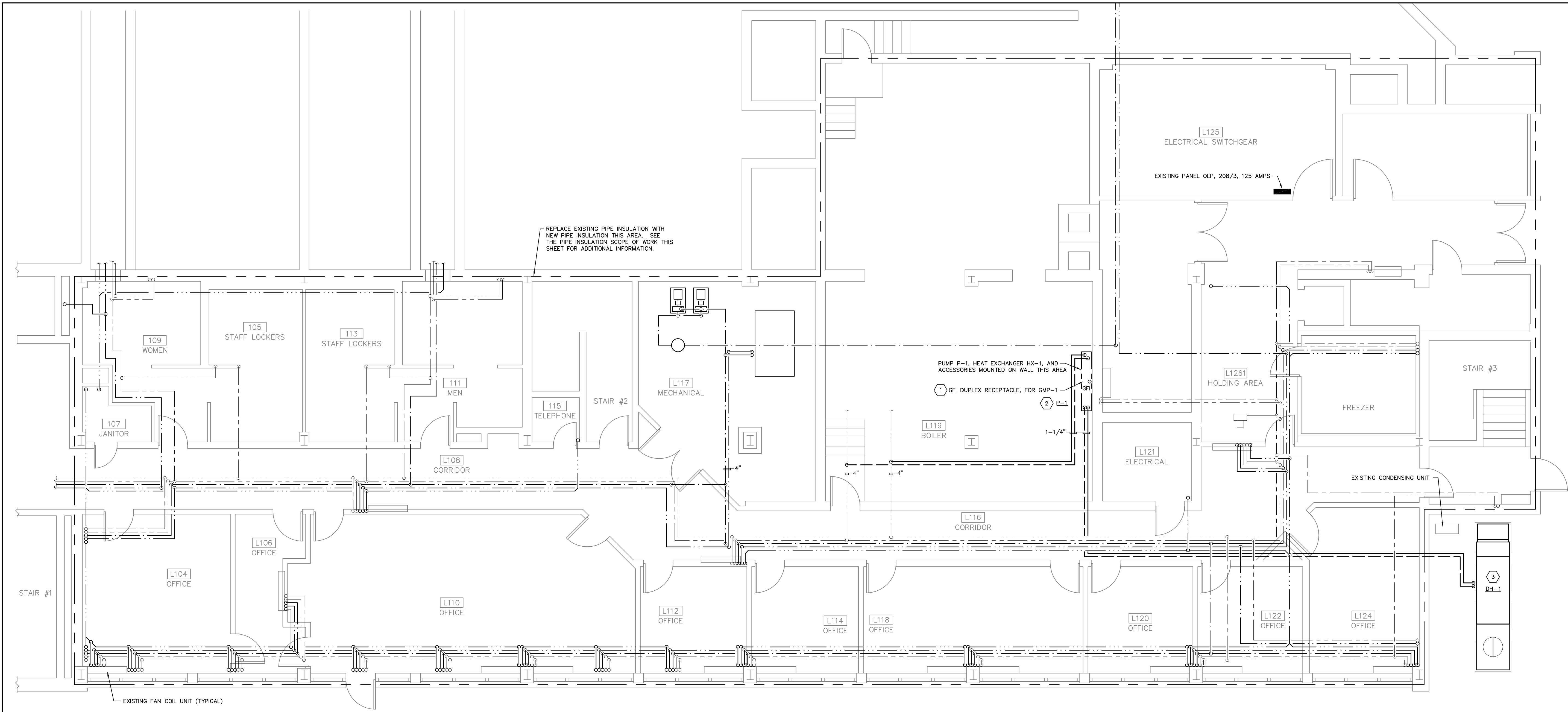
REVISIONS		
NO.	DATE	DESCRIPTION

**BASEMENT OFFICE  
 HVAC SYSTEM  
 RENOVATIONS**  
 SILVERMINE HALL  
 RIVERVIEW HOSPITAL  
 MIDDLETOWN, CT

**LOWER LEVEL  
 PIPING &  
 ELECTRICAL PLAN**

**DATE:** 23 JULY 07  
**PROJECT NO:** 27016.00  
**DRAWN:** JJR  
**CHECKED:** JJR  
**ISSUED FOR:** CONSTRUCTION  
**REVISIONS:** -

SHEET NO.  
M2

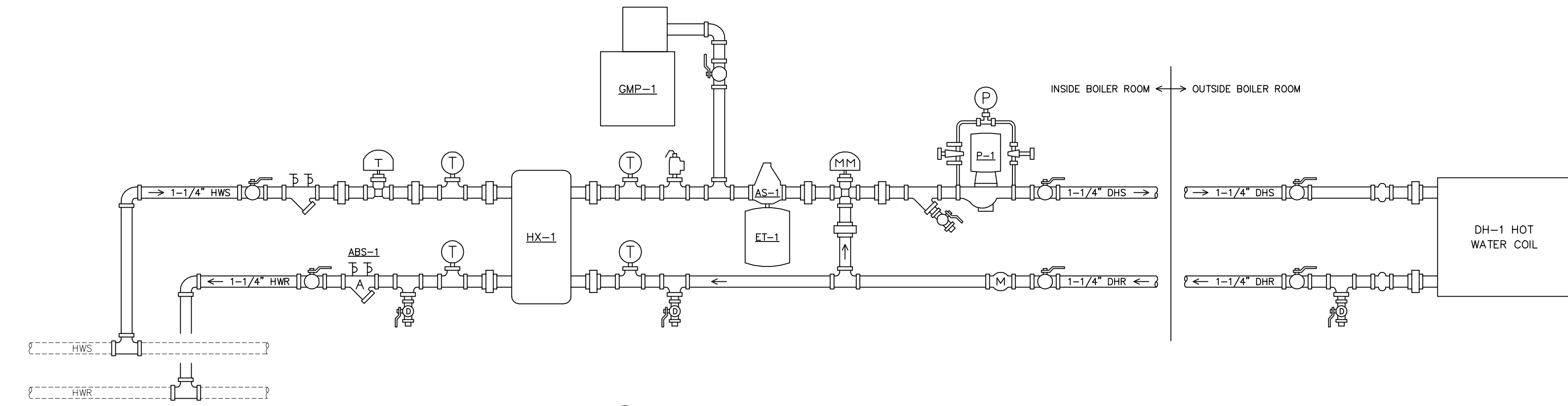


**1 LOWER LEVEL PIPING & ELECTRICAL PLAN**  
 SCALE: 3/16"=1'-0"

PIPING LINETYPE LEGEND	
SYMBOL	DESCRIPTION
— · — · —	EXISTING CHILLED WATER SUPPLY PIPING
— · · · —	EXISTING CHILLED WATER RETURN PIPING
— · · · ·	EXISTING CONDENSATE DRAIN PIPING
— · — · —	EXISTING HOT WATER SUPPLY PIPING
— · · · —	EXISTING HOT WATER RETURN PIPING
— · — · —	HOT WATER SUPPLY PIPING
— · — · —	HOT WATER RETURN PIPING

PIPE INSULATION SCOPE OF WORK
<ul style="list-style-type: none"> <li>THE INSULATION ON THE EXISTING CHILLED WATER SUPPLY PIPING, CHILLED WATER RETURN PIPING, AND COOLING COIL CONDENSATE PIPING INDICATED SHALL BE ENTIRELY REPLACED WITH NEW PIPE INSULATION.</li> <li>PIPE INSULATION SHALL INCLUDE VALVES, PUMPS, FITTINGS, &amp; ACCESSORIES, SUCH THAT THE ENTIRE CHILLED WATER AND CONDENSATE PIPING SYSTEMS HAVE A COMPLETE VAPOR BARRIER.</li> <li>THE FINISHED SURFACES OF THE EXISTING CEILINGS, PARTITIONS, AND WALLS SHALL BE DEMOLISHED AS NECESSARY TO ENTIRELY EXPOSE THE ENTIRE PIPING SYSTEMS TO BE RE-INSULATED. SUBSEQUENT TO THE INSTALLATION OF THE NEW PIPE INSULATION, THE FINISHED SURFACES OF THE EXISTING CEILINGS, PARTITIONS, AND WALLS SHALL BE REFINISHED TO MATCH EXISTING.</li> <li>VERIFY PIPE SIZES IN THE FIELD. VERIFY PIPE LOCATIONS IN THE FIELD, AND ADJUST WORK AS NECESSARY.</li> </ul>

ELECTRICAL KEY NOTES
<ul style="list-style-type: none"> <li>① 2#12, #12G, 3/4" C TO PANEL OLP. PROVIDE 20 AMP SINGLE POLE CIRCUIT BREAKER.</li> <li>② 2#12, #12G, 3/4" C TO PANEL OLP. PROVIDE 20 AMP SINGLE POLE CIRCUIT BREAKER. PROVIDE DISCONNECT AT PUMP.</li> <li>③ 3#6, #10G, 3/4" C TO PANEL OLP. PROVIDE 50 AMP THREE POLE CIRCUIT BREAKER.</li> </ul>



**1 HYDRONIC PIPING DIAGRAM**  
SCALE: N.T.S.

**HYDRONIC PIPING DIAGRAM LEGEND**

SYMBOL	DESCRIPTION
	CONTROL SYSTEM PRESSURE SENSOR
	CONTROL SYSTEM TEMPERATURE SENSOR
	THREE WAY CONTROL VALVE, MODULATING, MIXING
	TWO WAY CONTROL VALVE, TWO POSITION
	WYE STRAINER
	WYE STRAINER WITH 3/4" THREADED BLOWDOWN BALL VALVE
	UNION
	AUTOMATIC BALANCING VALVE
	TEE
	ELBOW
	BALL VALVE
	GAUGE COCK (NEEDLE VALVE)
	FLEXIBLE CONNECTOR
	AUTOMATIC AIR VENT, TACO MODEL HY-VENT WITH TACO MODEL 414 WASTE CONNECTOR
	ASME RELIEF VALVE
	PUMP
	FLEXIBLE CONNECTOR
	TEMPERATURE & PRESSURE TEST PORT
	LIQUID FILLED THERMOMETER
	DIAL THERMOMETER
	DIAL PRESSURE GAUGE
	DRAIN VALVE - BALL VALVE WITH 3/4" THREADED HOSE CONNECTION
	MANUAL BALANCING VALVE
	FLEXIBLE CONNECTOR
	EXISTING HOT WATER SUPPLY PIPING
	EXISTING HOT WATER RETURN PIPING
	DEHUMIDIFIER HOT WATER SUPPLY PIPING 1-1/4" UNLESS OTHERWISE INDICATED
	DEHUMIDIFIER HOT WATER RETURN PIPING 1-1/4" UNLESS OTHERWISE INDICATED
	FLOW DIRECTION

**HYDRONIC SYSTEM EQUIPMENT AND ACCESSORIES**

SYMBOL	MANUFACTURER	MODEL	DESCRIPTION
ABS-1	FDI	49-125	AUTOMATIC BALANCING VALVE, FLOW DESIGN INC. MODEL YR, 2-32 PSID PRESSURE RANGE
AS-1	TACO	49-125	AIR SEPARATOR, TANGENTIAL TYPE, 1-1/4, 7.5 GPM AT 1 FT WPD
ET-1	AMTROL	15	EXTROL, EXPANSION TANK, BUTYL/EPDM BLADDER TYPE, 2.0 GALLON TOTAL VOLUME, 0.9 GALLON ACCEPTANCE VOLUME
GMP-1	WESSELS	G-15	GLYCOL MAKE-UP PACKAGE SHALL GENERALLY CONSIST OF A 15 GALLON TRANSLUCENT POLYETHYLENE SOLUTION CONTAINER WITH LID WITH A PUMPING ASSEMBLY, DESIGNED SPECIFICALLY FOR THE MAINTENANCE OF GLYCOL IN CLOSED LOOP HYDRONIC SYSTEMS. UNIT SHALL BE AUTOMATIC AND SHALL INCLUDE A PRESSURE TANK WITH GAUGE AND A PRESSURE REDUCING VALVE WITH GAUGE. 110 VOLT PLUG-IN POWER.
HX-1	TACO	TFP5X12-50	BRAZED TYPE HEAT EXCHANGER, 1-1/4" CONNECTIONS, 69,324 BTUH HEAT TRANSFER RATE, 4.9"X12.2"X5.1" DEEP SOURCE/BOILER SIDE: 7.0 GPM WATER AT 180°F EFT, 160°F LFT, 0.3 PSI FPD, 0.0003 FOULING FACTOR LOAD/DEHUMIDIFIER SIDE: 7.5 GPM 40% PROPYLENE GLYCOL AT 150°F EFT, 170°F LFT, 0.3 PSI FPD, 0.0003 FOULING FACTOR
P-1	TACO	113	PUMP, IN-LINE, 1,725 RPM, 7.5 GPM AT 16 FT WPD, 1/8 HP, 115/1, WITH COMPANION FLANGES

**HYDRONIC PIPING DIAGRAM GENERAL NOTES**

- AIR VENTS, AUTOMATIC: PIPE TO GLYCOL MANAGEMENT PACKAGE TANK GMP-1
- ASME RELIEF VALVE: PIPE TO GLYCOL MANAGEMENT PACKAGE TANK GMP-1
- PRESSURE GAUGES: PROVIDE WITH GAUGE COCKS (NEEDLE VALVES), PRESSURE SNUBBERS, AND SIPHONS
- THERMOMETERS: PROVIDE WITH THERMOWELLS

**DEHUMIDIFICATION UNIT SPECIFICATIONS**

- PART 1 - GENERAL**
- SECTION INCLUDES
    - DEHUMIDIFICATION UNIT.
  - SUBMITTALS FOR REVIEW
    - PRODUCT DATA: PROVIDE RATED CAPACITY, WEIGHT, DIMENSIONS, ACCESSORIES, ELECTRICAL NAMEPLATE DATA, AND WIRING DIAGRAMS.
  - SUBMITTALS AT PROJECT CLOSEOUT
    - OPERATION AND MAINTENANCE DATA: INCLUDE START-UP INSTRUCTIONS, MAINTENANCE INSTRUCTIONS, PARTS LISTS, CONTROLS, AND ACCESSORIES.
  - REGULATORY REQUIREMENTS
    - PRODUCTS REQUIRING ELECTRICAL CONNECTION: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC. AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.
  - DELIVERY, STORAGE, AND PROTECTION
    - EQUIPMENT STORED ON THE JOB SITE SHALL BE PROTECTED FROM THE WEATHER, VEHICLES, DIRT AND/OR DAMAGE BY WORKMEN OR MACHINERY.
    - COMPLY WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR RIGGING, UNLOADING, AND TRANSPORTING UNITS.
  - QUALITY ASSURANCE
    - THE COMPLETE UNIT SHALL BE BUILT AND TESTED IN THE U.S.A. ALL PARTS AND COMPONENTS SHALL BE DOMESTIC, BRAND NAME, UL OR ETL LISTED, AND READILY AVAILABLE LOCALLY. THE MANUFACTURER OF THE DEHUMIDIFICATION SYSTEM SHALL HAVE A MINIMUM OF FIVE (5) YEARS OF EXPERIENCE IN THE PRODUCTION OF THESE SYSTEMS, INCLUDING LOCAL REFERENCE INSTALLATIONS.
  - WARRANTY
    - PROVIDE A FIVE YEAR WARRANTY.
  - EXTRA MATERIALS
    - PROVIDE TWO OF COMPLETE CHANGES OF FILTERS AND LUBRICATING OIL.
- PART 2 - PRODUCTS**
- GENERAL**
- THE UNIT SHALL GENERALLY INCLUDE THE FOLLOWING COMPONENTS: COMPRESSOR, DEHUMIDIFICATION/COOLING COIL, HOT WATER COIL, HOT GAS REHEAT COIL, RECEIVER, SUPPLY AIR BLOWER, BLOWER MOTOR, CONTROLS, CONDENSER, FILTERS, AND OUTSIDE AIR INTAKE HOOD WITH MODULATING CONTROL DAMPER.
  - MANUFACTURER
    - DESERT-AIRE
    - SUBSTITUTIONS: WHERE ACCEPTABLE TO THE OWNER.
  - ENCLOSURE
    - THE UNIT SHALL BE MOUNTED ON A FULL LENGTH 12-GAUGE GALVANIZED BASE RAIL.
    - THE UNIT SHALL BE DOUBLE WALL 16-GAUGE GALVANNEAL OUTER PANELS AND 22-GAUGE GALVANIZED METAL INNER LINER.
    - SUPPORTS SHALL BE CONSTRUCTED OF 12-GAUGE GALVANNEAL STEEL.
    - HINGED ACCESS DOORS SHALL ALLOW EASY ACCESS TO INTERNAL COMPONENTS WITHIN EACH SECTION. EACH DOOR SHALL HAVE A MINIMUM OF TWO CAM LATCHES. WEATHERPROOF COMPRESSION GASKETS SHALL SEAL BETWEEN THE DOOR AND UNIT CASING TO PRODUCE AN AIRTIGHT SEAL.
    - THE UNIT SHALL BE DESIGNED FOR COMPLETE ACCESS FOR SERVICE AND MAINTENANCE FROM ONE SIDE ONLY.
    - THE ELECTRICAL CONTROL PANEL SHALL BE IN ITS OWN SEPARATE COMPARTMENT.
    - EXTERNAL FASTENERS SHALL BE STAINLESS STEEL BOLTS.
    - ENCLOSURE SHALL BE FULLY WEATHERPROOF WITH A CROSS BROKEN ROOF FOR WATER DRAINAGE.
    - THE INSULATION SHALL BE 1-SOLID FOAM SANDWICHED IN THE DOUBLE WALL CABINET WITH A MINIMUM R-FACTOR OF 5.0.
    - PAINT AND FINISH: PRIOR TO PAINTING, ALL METAL PARTS SHALL BE PRETREATED TO REMOVE OILS AND DIRT AND SHALL BE RINSED WITH AN IONIZED SOLUTION. PAINTING SHALL BE BY A POWDER COAT TECHNIQUE TO ASSURE POSITIVE ADHERENCE WITH A HIGH-IMPACT FINISH. ALL SIDES OF PANELS SHALL BE PAINTED. THE PANELS SHALL BE RATED TO MEET A MINIMUM OF 1,000-HOUR SALT SPRAY TEST. UNIT COLOR SHALL BE LIGHT GRAY.
  - SUPPLY AIR BLOWER
    - ASSEMBLY: THE BLOWER HOUSING SHALL BE MADE OF GALVANIZED STEEL AND MOUNTED ON PERMANENTLY LUBRICATED SEALED BALL BEARINGS. THE BLOWER ASSEMBLY SHALL BE FORWARD CURVED, CENTRIFUGAL; IT SHALL BE DYNAMICALLY AND STATICALLY BALANCED WITH A STAINLESS STEEL FAN SHAFT. THE BLOWER HOUSING SHALL BE VIBRATION ISOLATED.
    - BLOWER DISCHARGE: THE UNIT'S AIR DISCHARGE SHALL BE A ON THE TOP OF THE UNIT.
    - BLOWER PULLEY ASSEMBLY: THE DRIVER PULLEY AND THE BLOWER PULLEY SHALL BE MADE OF CAST IRON. THE MOTOR SHEAVE SHALL BE A VARIABLE PITCH TYPE TO ALLOW FOR FIELD ADJUSTMENT OF CFM AND EXTERNAL STATIC PRESSURE, AND SHALL BE DYNAMICALLY AND STATICALLY BALANCED WITH A STAINLESS STEEL FAN SHAFT. THE DRIVE OVERLOAD SERVICE FACTOR SHALL BE MINIMUM OF 1.2.
    - BLOWER MOTOR: THE MOTOR SHALL BE ODP (INDOOR) OR TEFC (OUTDOOR), CLASS B INSULATED, CONTINUOUS-DUTY, 40C AMBIENT, THREE-PHASE OVERLOADS. THE MOTOR SHALL BE UL LISTED.
  - EVAPORATOR/DEHUMIDIFIER COIL
    - FINS: FINS SHALL BE DIE-FORMED, LANCED, ALUMINUM AND SHALL BE DAMAGE RESISTANT. EXTRUDED FIN COLLARS PROVIDE MAXIMUM HEAT TRANSFER. FIN SPACING SHALL BE 10 FPI (FINS PER INCH).
    - TUBES: COIL SHALL BE FABRICATED FROM SEAMLESS DRAWN COPPER. THE INNER TUBING SHALL BE RIFFLED TO PRODUCE TURBULENT REFRIGERATION FLOW TO ENHANCE THE HEAT TRANSFER PROCESS. THE TUBES SHALL BE HYDRAULICALLY EXPANDED INTO THE FINS TO FORM A PERMANENT METAL-TO-METAL BOND FOR MAXIMUM HEAT TRANSFER AND STABILITY. THE COIL SHALL BE A MINIMUM OF SIX (6) ROWS DEEP.
    - TESTING: COIL SHALL BE LEAK TESTED WITH 420-PSIG NITROGEN. AFTER TESTING, COILS SHALL BE SEALED.
  - CONDENSER REHEAT COIL
    - REHEAT COIL SHALL BE POSITIONED WITH AN 8-MINIMUM CLEARANCE FROM THE DX COIL. THIS WILL HELP PREVENT WATER RE-EVAPORATION.
    - FINS: FINS SHALL BE DIE-FORMED, ALUMINUM AND SHALL BE DAMAGE RESISTANT. EXTRUDED FIN COLLARS PROVIDE MAXIMUM HEAT TRANSFER. FIN SPACING SHALL BE 12 FPI (FINS PER INCH).
    - TUBES: COIL SHALL BE FABRICATED FROM SEAMLESS DRAWN COPPER. THE TUBES SHALL BE HYDRAULICALLY EXPANDED INTO THE FINS TO FORM A PERMANENT METAL-TO-METAL BOND FOR MAXIMUM HEAT TRANSFER AND STABILITY. THE COIL SHALL BE A MINIMUM OF TWO (2) ROWS DEEP.
  - HOT WATER COIL
    - AN INTERNAL HOT WATER SHALL BE SUPPLIED DOWNSTREAM FROM THE HOT GAS REHEAT COIL. THE MANUFACTURING SPECIFICATIONS SHALL BE THE SAME AS FOR THE EVAPORATOR/CONDENSER COILS. THE SIZE AND CAPACITY WILL BE IN ACCORDANCE WITH THE UNIT SCHEDULE. THE MICROPROCESSOR-BASED CONTROLLER WILL CONTROL THE AUXILIARY HEATING COIL. THE CONTROL SIGNAL SHALL BE A PROPORTIONAL 0 TO 10 VOLTS DC.
  - CONDENSATE DRAIN PAN
    - THE DRAIN PAN SHALL BE 20-GAUGE STAINLESS STEEL, SLOPED, AND POSITIONED UNDER THE EVAPORATOR COIL. IT SHALL BE SILVER-SOLDER WELDED AND SECURELY ATTACHED TO THE EVAPORATOR END PLATES TO AVOID SHIFTING. THE DRAIN PAN SHALL BE FITTED WITH A MINIMUM 1-MPT NON-CORROSIVE PLASTIC DRAIN CONNECTION. THE DRAIN PAN SHALL MEET ALL THE REQUIREMENTS OF ASHRAE 62.
  - REFRIGERATION COMPONENTS
    - THE COMPRESSOR SHALL BE A HEAVY-DUTY SCROLL TYPE SINGLE COMPRESSOR. THE COMPRESSOR SHALL BE EQUIPPED WITH LOW AND HIGH-PRESSURE SAFETY SWITCHES WITH INTERNAL PROTECTION FROM OVERHEATING. THE COMPRESSOR SHALL BE EXTERNALLY VIBRATION ISOLATED. A STANDARD FACTORY TWO-YEAR COMPRESSOR WARRANTY SHALL BE INCLUDED. THE UNIT SHALL BE PROVIDED WITH HOT GAS BYPASS. THE HOT GAS BYPASS IS TO BE USED ONLY FOR THE PREVENTION OF COIL FREEZE UP AND NOT FOR COMPRESSOR UNLOADING.
    - THE UNIT SHALL BE PROVIDED WITH A REFRIGERANT RECEIVER. THE RECEIVER SHALL ASSIST THE UNIT IN OPERATING AT THE HIGHEST EFFICIENCY OVER A WIDE RANGE OF LOAD CONDITIONS.
  - CONDENSER
    - GENERAL: THE DEHUMIDIFIER SHALL BE EQUIPPED WITH AN INTEGRAL, FULL-SIZE, AIR COOLED CONDENSER TO REJECT EXCESS HEAT TO THE OUTSIDE. THE SYSTEM SHALL BE ABLE TO REJECT ALL THE RECOVERED HEAT (T.H.R.) OUTDOORS.
    - COILS: COILS SHALL BE OF 3/8-INCH OD COPPER TUBING IN A STAGGERED DESIGN. TUBES SHALL BE MECHANICALLY EXPANDED INTO FULL COLLARED PLATE TYPE ALUMINUM FINS. THE COIL SHALL BE SLOPED AT LEAST 20 DEGREES FROM THE HORIZONTAL TO PROTECT THE COIL FROM DAMAGE.
    - FAN MOTORS: FAN MOTORS SHALL BE HEAVY DUTY PSC OR THREE PHASE WITH PERMANENTLY LUBRICATED BALL BEARINGS AND BUILT-IN OVERLOAD PROTECTION. ALL MOTORS SHALL BE FACTORY WIRED WITH LEADS TERMINATING IN A WEATHERPROOF JUNCTION BOX LOCATED ON THE OUTSIDE OF THE UNIT CABINET.
    - FANS: FAN DIAMETER SHALL NOT EXCEED 30 INCHES. ALL UNITS SHALL HAVE DYNAMICALLY BALANCED FANS WITH ALUMINUM BLADES AND PAINTED STEEL HUBS.
    - FAN CYCLING: FANS SHALL BE CYCLED BASED ON INTERNAL HEAD PRESSURE ON MULTIPLE FAN UNITS.
    - FAN GUARDS: GUARDS SHALL BE HEAVY GAUGE, CLOSE MESHED STEEL WIRE WITH VINYL COATING. GUARDS SHALL BE CONTOURED FOR MAXIMUM RIGIDITY.
  - ELECTRICAL CONTROL PANEL
    - THE ELECTRICAL CONTROL PANEL SHALL BE EASILY ACCESSIBLE ON ONE SIDE SO THAT ALL SERVICE CAN BE PERFORMED FROM THE SIDE OF THE UNIT. IT SHALL BE OF ADEQUATE SIZE SO AS TO HOUSE ALL ELECTRICAL CONTROLS AND DEVICES.
    - THE UNIT SHALL BE PROVIDED WITH SINGLE-POINT POWER CONNECTION, FACTORY WIRED TO THE POWER CONNECTION LUG SET.
    - THE ELECTRICAL CONTROLS SHALL INCLUDE LOW VOLTAGE TRANSFORMERS TO SUPPLY 24 VDC CONTROL POWER, CLEARLY LABELED HIGH- AND LOW-VOLTAGE TERMINAL STRIPS, HIGH- AND LOW-PRESSURE CONTROL (WITH MANUAL RESET OF THE HIGH-PRESSURE CUTOFF AND AUTOMATIC RESET OF LOW PRESSURE CUTOFF), AND AN ANTI-SHORT CYCLING TIMER DELAY TO PROTECT AGAINST COMPRESSOR CYCLING.
    - PROVIDE WITH A FACTORY MOUNTED AND WIRED DISCONNECT SWITCH.
    - PROVIDE A 13-AMP, 120-VOLT ELECTRICAL OUTLET.
  - CONTROLS
    - THE UNIT SHALL INCLUDE FACTORY MOUNTED TEMPERATURE AND HUMIDITY SENSORS IN THE FILTER SECTION, PRE-WIRED TO CONTROLLER IN PANEL FOR ACTUATION OF COMPRESSOR IN AMBIENT TEMPERATURES ABOVE DEW POINT (PROGRAMMABLE).
    - THE UNIT SHALL BE SUPPLIED WITH THE NECESSARY CONTROLS FOR PROPER TEMPERATURE AND HUMIDITY CONTROL OF THE SPACE
- PART 3 - EXECUTION**
- INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  - COMPLETE STRUCTURAL, MECHANICAL, AND ELECTRICAL CONNECTIONS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  - CLEAN, CHECK, AND PERFORM ALL PRELIMINARY START-UP PROCEDURES BEFORE FINAL OPERATION OF THE UNIT, PER MANUFACTURER'S RECOMMENDATIONS.
  - FURNISH CHARGE OF REFRIGERANT AND OIL.

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**DEPARTMENT OF CHILDREN & FAMILIES**

505 HUDSON STREET  
HARTFORD, CT

REVISIONS

NO.	DATE	DESCRIPTION

**BASEMENT OFFICE HVAC SYSTEM RENOVATIONS**

SILVERMINE HALL  
RIVERVIEW HOSPITAL  
MIDDLETOWN, CT

**DETAILS**

DATE:	23 JULY 07
PROJECT NO:	27016.00
DRAWN:	JJR
CHECKED:	JJR
ISSUED FOR:	CONSTRUCTION
REVISIONS:	-



## GENERAL SPECIFICATIONS (DIVISIONS 15 & 16)

1. THIS PROJECT COMPRISES ALTERATIONS AND RENOVATIONS TO THE EXISTING BUILDING. THE EXISTING BUILDING IS CURRENTLY OCCUPIED AND THE PROJECT WILL PROCEED IN A MANNER WHICH WILL MINIMIZE ANY INCONVENIENCE TO THE BUILDING OCCUPANTS.
2. PRIOR TO SUBMITTING BID, VISIT SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. NO COMPENSATION WILL BE GRANTED FOR WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY IDENTIFIED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID DEMOLITION WORK REQUIRED.
3. PROVIDE MATERIALS, EQUIPMENT AND LABOR NECESSARY TO COMPLETE THE WORK INDICATED HEREIN. THESE DOCUMENTS ARE DIAGRAMMATIC ONLY; FINAL PLACEMENT OF EQUIPMENT OR DEVICES IN THE FIELD MAY NOT DIRECTLY CORRESPOND TO THAT SHOWN ON THE DRAWINGS. IF A CONFLICT IN POSITIONING OCCURS, NOTIFY THE ARCHITECT TO ASCERTAIN THE DESIGN INTENT.
4. FURNISHING LABOR, MATERIALS, EQUIPMENT, HOISTING, PLANT, TRANSPORTATION, RIGGING, STAGING, APPURTENANCES, AND SERVICES NECESSARY AND/OR INCURRED TO PROPERLY COMPLETE THE WORK AS SHOWN INDICATED HEREIN.
5. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST STATE BUILDING CODE OF CONNECTICUT AND LIFE SAFETY CODE.
6. THE FOLLOWING DEFINITIONS APPLY TO THIS CONTRACT:
  - A. FURNISH: THE TERM "FURNISH" MEANS TO "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATION.
  - B. INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."
  - C. PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."
  - D. REMOVE: THE TERM "REMOVE" MEANS "TO DISCONNECT FROM ITS PRESENT POSITION, REMOVE FROM THE PREMISES AND TO DISPOSE OF IN A LEGAL MANNER."
  - E. SUBSTITUTIONS: "SUBSTITUTIONS" ARE REQUESTS FOR CHANGES IN PRODUCTS, MATERIALS AND METHODS OF CONSTRUCTION AS PROPOSED BY THE CONTRACTOR AFTER AWARD OF THE CONTRACT.
7. DO NOT SCALE DRAWINGS. SCALE INDICATED ON DRAWINGS IS FOR ESTABLISHING REFERENCE POINTS ONLY. ACTUAL FIELD CONDITIONS SHALL GOVERN ALL DIMENSIONS.
8. INSTALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
9. USE ADEQUATE NUMBERS OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND THE METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK.
10. ARRANGE INSTALLATION TO PROVIDE ACCESS TO EQUIPMENT FOR EASY MAINTENANCE AND REPAIR.
11. GUARANTEE WORK OF THESE CONTRACT DOCUMENTS IN WRITING FOR NOT LESS THAN ONE YEAR FROM DATE OF FINAL NOTICE OF ACCEPTANCE. REPAIR OR REPLACE DEFECTIVE MATERIALS, EQUIPMENT, WORKMANSHIP AND INSTALLATION THAT DEVELOP WITHIN THIS PERIOD. PROMPT AND TO OWNER'S SATISFACTION AND CORRECT DAMAGE CAUSED IN MAKING NECESSARY REPAIRS AND REPLACEMENTS UNDER GUARANTEE WITHIN CONTRACT PRICE.
12. MATERIALS AND EQUIPMENT SHALL BE UL LISTED WHERE STANDARD HAS BEEN ESTABLISHED.
13. OBTAIN IN OWNER'S NAME WRITTEN EQUIPMENT AND MATERIAL WARRANTIES OFFERED IN MANUFACTURER'S PUBLISHED PRODUCT DATA WITHOUT EXCLUSION OR LIMITATION.
14. OBTAIN AND PAY FOR ALL PERMITS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. ARRANGE FOR INSPECTIONS AND BE AVAILABLE FOR INSPECTIONS BY THE AUTHORITY HAVING JURISDICTION.
15. SUBMIT TO THE OWNER AN OFFICIAL CERTIFICATE OF INSURANCE.
16. DO NOT BURN WASTE MATERIALS. DO NOT BURY DEBRIS OR EXCESS MATERIALS ON THE OWNER'S PROPERTY. DO NOT DISCHARGE VOLATILE, HARMFUL, OR DANGEROUS MATERIALS INTO DRAINAGE SYSTEMS. REMOVE AND DISPOSE OF ALL WASTE MATERIALS, PACKAGING MATERIAL, SKIDS ETC. FROM THE SITE AND DISPOSE OF IN A LAWFUL MANNER IN ACCORDANCE WITH MUNICIPAL, STATE AND FEDERAL REGULATIONS.
17. PROVIDE TEMPORARY HEAT DURING CONSTRUCTION PERIOD AS REQUIRED TO MAINTAIN THE BUILDING TEMPERATURE AT 50 DEGREES F. PROVIDE TEMPORARY VENTILATION AS REQUIRED TO MAINTAIN TOLERABLE WORKING CONDITIONS IN RESPECT TO FRESH AIR, TEMPERATURE AND FILTRATION.
18. PROVIDE FIRESTOPPING AROUND ALL MECHANICAL PENETRATIONS THROUGH FIRE RATED PARTITIONS. PROVIDE ASBESTOS FREE FIRESTOPPING SYSTEM CAPABLE OF MAINTAINING AN EFFECTIVE BARRIER AGAINST FLAME AND GASES. SYSTEM SHALL BE UL LISTED AND COMPLY WITH ASTM E 814.
19. PRIOR TO ORDERING ANY MATERIALS AND EQUIPMENT, REVIEW THE SITE CONDITIONS TO DETERMINE IF ADEQUATE CLEARANCE AND ACCESS IS ALLOWED TO INSTALL THE COMPONENTS. ORDER EQUIPMENT BOKEN DOWN AS NECESSARY TO ALLOW FOR PROPER HANDLING THROUGH THE PROJECT AREA. PROVIDE ALL NECESSARY ALTERATIONS TO THE STRUCTURE OF THE BUILDING AS NECESSARY TO RIG THE EQUIPMENT IN PLACE.
20. CAREFULLY INSPECT BUILDING ELEMENTS PRIOR TO CUTTING OR DRILLING INTO WALL, FLOORS OR CEILINGS. PATCH AND PAINT SURFACES DISTURBED BY WORK UNDER THIS CONTRACT AS REQUIRED TO RESTORE THEM TO THEIR ORIGINAL CONDITION.
21. PROPERLY STORE MATERIALS AND EQUIPMENT SO AS TO AVOID THEFT OR VANDALISM. IF THEFT OR VANDALISM OCCURS, REPAIR OR REPLACE SUCH ITEMS.
22. COORDINATE INTERRUPTIONS OF SERVICES AND LIMITATIONS OF ACCESS WITH THE OWNER NO LESS THAN 5 DAYS PRIOR TO THE INTERRUPTION.
23. ACCESS DOORS SHALL BE PROVIDED IN CEILINGS, WALLS AND FLOORS AT DAMPERS, VALVES, CONTROL DEVICES, AND OTHER APPARATUS AND EQUIPMENT REQUIRING PERIODIC SERVICE AND INSPECTION. COORDINATE TYPE AND LOCATION WITH ARCHITECTURAL PLANS.
24. AS-BUILT DRAWINGS
  - A. PREPARE AS-BUILT DRAWINGS TO A SCALE OF 1/4"=1'-0" OR LARGER; DETAILING THE ACTUAL INSTALLATION OF MAJOR ELEMENTS, COMPONENTS, AND SYSTEMS.
  - B. MARK NEW INFORMATION THAT IS IMPORTANT TO THE OWNER BUT NOT SHOWN ON CONTRACT DRAWINGS OR SHOP DRAWINGS.
  - C. NOTE RELATED CHANGE ORDER NUMBERS WHERE APPLICABLE.
  - D. ORGANIZE AS-BUILT DRAWINGS INTO MANAGEABLE SETS, BIND WITH DURABLE PAPER COVER SHEETS, AND PRINT SUITABLE TITLES, DATES AND OTHER IDENTIFICATION ON THE COVER OF EACH SET.
25. SUBSTITUTIONS
  - A. SUBSTITUTION REQUEST SUBMITTAL: REQUESTS FOR SUBSTITUTION WILL BE CONSIDERED IF RECEIVED WITHIN 45 DAYS AFTER COMMENCEMENT OF THE WORK. REQUESTS RECEIVED MORE THAN 45 DAYS AFTER COMMENCEMENT OF THE WORK MAY BE CONSIDERED OR REJECTED AT THE DISCRETION OF THE ENGINEER.
  - B. SUBMIT 3 COPIES OF EACH REQUEST FOR SUBSTITUTION FOR CONSIDERATION.
  - C. IDENTIFY THE PRODUCT, OR THE FABRICATION OR INSTALLATION METHOD TO BE REPLACED IN EACH REQUEST. INCLUDE RELATED DRAWING NUMBERS. PROVIDE COMPLETE DOCUMENTATION SHOWING COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS, AND THE FOLLOWING INFORMATION, AS APPROPRIATE.
    1. PRODUCT DATA, INCLUDING DRAWINGS AND DESCRIPTIONS OF PRODUCTS, FABRICATION AND INSTALLATION PROCEDURES.
    2. SAMPLES, WHERE APPLICABLE OR REQUESTED.
    3. A DETAILED COMPARISON OF SIGNIFICANT QUALITIES OF THE PROPOSED SUBSTITUTION WITH THOSE OF THE WORK SPECIFIED, SIGNIFICANT QUALITIES MAY INCLUDE ELEMENTS SUCH AS SIZE, WEIGHT, DURABILITY, PERFORMANCE AND VISUAL EFFECT.
    4. COORDINATION INFORMATION, INCLUDING A LIST OF CHANGES OR MODIFICATIONS NEEDED TO OTHER PARTS OF THE WORK AND TO CONSTRUCTION PERFORMED BY THE OWNER AND SEPARATE CONTRACTORS, THAT WILL BECOME NECESSARY TO ACCOMMODATE THE PROPOSED SUBSTITUTION.
    5. A STATEMENT INDICATING THE SUBSTITUTION'S EFFECT ON THE CONTRACTOR'S CONSTRUCTION SCHEDULE COMPARED TO THE SCHEDULE WITHOUT APPROVAL OF THE SUBSTITUTION. INDICATE THE EFFECT OF THE PROPOSED SUBSTITUTION ON OVERALL CONTRACT TIME.
    6. COST INFORMATION, INCLUDING A PROPOSAL OF THE NET CHANGE, IF ANY IN THE CONTRACT SUM.
    7. CERTIFICATION BY THE CONTRACTOR THAT THE SUBSTITUTION PROPOSED IS EQUAL TO OR BETTER IN EVERY SIGNIFICANT RESPECT TO THAT REQUIRED BY THE CONTRACT DOCUMENTS AND THAT IT WILL PERFORM ADEQUATELY IN THE APPLICATION INDICATED. INCLUDE THE CONTRACTOR'S WAIVER OF RIGHTS TO ADDITIONAL PAYMENT OR TIME, THAT MAY SUBSEQUENTLY BECOME NECESSARY BECAUSE OF THE FAILURE OF THE SUBSTITUTION TO PERFORM ADEQUATELY.
    - D. OTHER CONDITIONS: SUBSTITUTION REQUESTS WILL BE RECEIVED AND CONSIDERED BY THE ARCHITECT WHEN ONE OR MORE OF THE FOLLOWING CONDITIONS ARE SATISFIED, AS DETERMINED BY THE ARCHITECT, OTHERWISE REQUESTS WILL BE RETURNED WITHOUT ACTION EXCEPT TO RECORD NONCOMPLIANCE WITH THESE REQUIREMENTS.
      1. THE REQUEST IS DIRECTLY RELATED TO AN "OR EQUAL" CLAUSE OR SIMILAR LANGUAGE IN THE CONTRACT DOCUMENTS.
      2. THE SPECIFIED PRODUCT OR METHOD OF CONSTRUCTION CANNOT BE PROVIDED WITHIN THE CONTRACT TIME. THE REQUEST WILL NOT BE CONSIDERED IF THE PRODUCT OR METHOD CANNOT BE PROVIDED AS A RESULT OF FAILURE TO PURSUE THE WORK PROMPTLY OR COORDINATE ACTIVITIES PROPERLY.

## DIVISION 15 - MECHANICAL SPECIFICATIONS

1. GENERAL
  - A. ELECTRICAL WORK FOR DIVISION 15 SYSTEMS SHALL BE IN ACCORDANCE WITH DIVISION 16.
2. DUCTWORK AND ACCESSORIES
  - A. DUCTWORK AND ACCESSORIES SHALL BE GALVANIZED STEEL CONSTRUCTION IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS FOR 1" PRESSURE CLASS. DUCTWORK DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS. SQUARE DUCT ELBOWS ARE TO BE INSTALLED WITH TURNING VANES. RADIUS DUCT ELBOWS SHALL HAVE MINIMUM CENTER LINE RADIUS EQUAL TO 1-1/2 TIMES THE DUCT WIDTH.
  - B. INSTALLATION OF DIFFUSERS GRILLES AND REGISTERS SHALL BE COORDINATED WITH AND SUITABLE FOR INSTALLATION IN, ON, OR FROM CEILING, WALL OR FLOORS SPECIFIED ON THE ARCHITECTURAL PLANS. VERIFY THE CEILING OR WALL TYPES PRIOR TO ORDERING.
  - C. FLEXIBLE DUCT CONNECTORS APPROXIMATELY 6 INCHES IN LENGTH SHALL BE PROVIDED WHERE INDICATED
3. INSULATION
  - A. INSULATION THICKNESS SHALL BE 1-1/2" THICK FOR CHILLED WATER SUPPLY AND RETURN PIPING, 1" THICK FOR COOLING COIL CONDENSATE PIPING, 1" THICK FOR HOT WATER SUPPLY AND RETURN PIPING, AND 1" THICK FOR DEHUMIDIFICATION UNIT HOT WATER SUPPLY AND RETURN PIPING. ALL INSULATION MATERIALS, ADHESIVES, COATINGS, AND OTHER ACCESSORIES SHALL HAVE FLAME SPREAD RATINGS OF 25 OR LESS, AND SMOKE DEVELOPED RATINGS OF 50 OR LESS AS TESTED BY ASTM E-84 (NFPA 255) METHOD. INSULATION MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA AND ASHRAE STANDARDS.
  - B. PIPE INSULATION SHALL BE FIBERGLASS WITH VAPOR BARRIER JACKET. FITTINGS SHALL BE PRE-FORMED FIBERGLASS WITH A PRE-FORMED PLASTIC JACKET (ZESTON 2000). EXPOSED PIPING SHALL BE PROVIDED WITH PLASTIC JACKETING.
  - C. THE VAPOR BARRIER FOR THE CHILLED WATER SUPPLY AND RETURN PIPING, AND FOR THE CONDENSATE PIPING, SHALL BE COMPLETE AND CONTINUOUS, SUCH THAT THERE WILL BE NO CONDENSATION DUE TO VAPOR PENETRATION OF THE VAPOR BARRIER.
  - D. DUCT INSULATION MATERIALS SHALL BE FLEXIBLE FIBERGLASS DUCTWORK INSULATION WITH VAPOR BARRIER JACKET. DUCT INSULATION INSTALLED WITHIN MECHANICAL ROOMS SHALL BE RIGID, BOARD TYPE, MINIMUM 1" THICK. DUCTWORK ACOUSTIC LINING SHALL BE CELLULAR GLASS WITH FACE BONDED TO PROVIDE A SMOOTH DAMAGE RESISTANT FINISH. PROVIDE R-5 INSULATION FOR THE SUPPLY AIR DUCTWORK AND THE RETURN AIR DUCTWORK.
4. CONTROLS
  - A. CONTROLS SHALL BE INTEGRAL TO THE DEHUMIDIFICATION UNIT. PROVIDE NECESSARY CONTROL DEVICES, EQUIPMENT, MATERIALS, LABOR, WIRE, AND CONDUIT TO PERFORM THE SEQUENCES OF OPERATION AS INDICATED.
  - B. PROVIDE SOFTWARE AND HARDWARE AS NECESSARY TO BE CONTROLLED AND MONITORED BY THE EXISTING BUILDING MANAGEMENT SYSTEM (BMS).
5. DEHUMIDIFICATION UNIT
  - A. SEE DETAIL SHEET.
6. IDENTIFICATION
  - A. MECHANICAL IDENTIFICATION WORK SHALL COMPLY WITH ANSI A13.1. NAMES, ABBREVIATIONS AND OTHER DESIGNATIONS USED IN MECHANICAL IDENTIFICATION WORK, SHALL CORRESPOND WITH ANSI A13.1 OR OWNER'S STANDARDS.
  - B. WHERE IDENTIFICATION IS TO BE APPLIED TO SURFACES WHICH REQUIRE INSULATION, PAINTING OR OTHER COVERING OR FINISH, INSTALL IDENTIFICATION AFTER COMPLETION OF COVERING AND PAINTING. INSTALL IDENTIFICATION PRIOR TO INSTALLATION OF ACOUSTICAL CEILINGS AND SIMILAR REMOVABLE CONCEALMENT.
  - C. DUCTWORK: DUCTWORK IDENTIFICATION SHALL BE EITHER LAMINATED PLASTIC DUCT MARKERS, OR STENCILED SIGNS. DUCTWORK IDENTIFICATION SHALL INDICATE DUCTWORK SERVICE AND DIRECTION OF FLOW. WHERE DUCTWORK IS EXPOSED (OR CONCEALED ONLY BY REMOVABLE CEILING), LOCATE DUCT MARKERS OR SIGNS NEAR POINTS WHERE DUCTWORK ORIGINATES OR CONTINUES INTO CONCEALED ENCLOSURES (SHAFT, UNDERGROUND OR SIMILAR CONCEALMENT), AND AT 5' SPACINGS ALONG EXPOSED RUNS.
  - D. PIPING: PIPE MARKERS SHALL BE EITHER PRE-PRINTED, SEMI-RIGID SNAP-ON, COLOR-CODED PLASTIC PIPE MARKERS, OR PRE-PRINTED, PERMANENT ADHESIVE, COLOR-CODED, PRESSURE-SENSITIVE VINYL PIPE MARKERS. INCLUDE ARROWS TO SHOW NORMAL DIRECTION OF FLOW. LOCATE PIPE MARKERS AND COLOR BANDS ON PIPING AT MAXIMUM 25 FOOT SPACING, AND ADJACENT TO EACH MAJOR EQUIPMENT ITEM, VALVE, CONTROL DEVICE, BRANCH TAKE-OFF, PENETRATIONS OF WALLS/PARTITIONS, PENETRATIONS OF FLOOR/CEILING ASSEMBLIES, AND ACCESS DOORS.
  - E. EQUIPMENT: PROVIDE LAMINATED PLASTIC NAMEPLATES FOR ALL EQUIPMENT. NAMEPLATES SHALL BE MELAMINE PLASTIC, 0.125-INCH THICK, WHITE WITH BLACK CENTER CORE. SURFACE SHALL BE MATTE FINISH. MINIMUM SIZE OF NAMEPLATES SHALL BE 1 BY 2.5 INCHES. LETTERING SHALL BE A MINIMUM OF 0.25-INCH HIGH.
7. SEISMIC RESTRAINTS
  - A. SEISMIC RESTRAINTS SHALL BE INSTALLED AS REQUIRED PER STATE OF CONNECTICUT BUILDING CODE AND FIRE SAFETY CODE. RESTRAINTS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13 AND SMACNA STANDARDS. SUBMIT SHOP DRAWINGS INCLUDING SEISMIC CALCULATIONS WITH PROFESSIONAL ENGINEER'S SEAL FOR REVIEW BY ENGINEER.
  - B. PROVIDE SEISMIC BRACING FOR ALL DUCTWORK, PIPING AND EQUIPMENT AS REQUIRED PER THE CODES REFERENCED ABOVE.
7. TESTING, ADJUSTING AND BALANCING
  - A. PROVIDE THE SERVICES OF AN INDEPENDENT TESTING, ADJUSTING, AND BALANCING (TAB) AGENCY TO PROVIDE TAB SERVICES FOR THE MECHANICAL SYSTEMS. THE TAB AGENCY SHALL BE CERTIFIED BY NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) OR THE ASSOCIATED AIR BALANCE COUNCIL (AABC) IN THOSE TESTING AND BALANCING DISCIPLINES REQUIRED FOR THIS PROJECT. THE TAB AGENCY SHALL HAVE AT LEAST ONE PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE SERVICES ARE TO BE PERFORMED AND CERTIFIED BY NEBB OR AABC AS A TEST AND BALANCE ENGINEER.
  - B. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM IDENTIFIED, IN ACCORDANCE WITH THE DETAILED PROCEDURES OUTLINED IN EITHER NEBB: "PROCEDURAL STANDARDS FOR TESTING, ADJUSTING, AND BALANCING OF ENVIRONMENTAL SYSTEMS" OR AABC: "NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE." THE TAB AGENCY SHALL TEST, ADJUST, AND, WHERE CFMS ARE INDICATED, BALANCE THE SUPPLY AIR, RETURN AIR, AND EXHAUST AIR SYSTEMS.
  - C. SUBMIT TESTING, ADJUSTING, AND BALANCING REPORTS BEARING THE SEAL AND SIGNATURE OF THE TAB PROFESSIONAL ENGINEER. PREPARE A REPORT OF RECOMMENDATIONS FOR CORRECTING UNSATISFACTORY MECHANICAL PERFORMANCES WHEN A SYSTEM CANNOT BE SUCCESSFULLY BALANCED.

## DIVISION 16 - ELECTRICAL SPECIFICATIONS

1. MOUNT PANELBOARDS, CIRCUIT BREAKERS, AND DISCONNECTING SWITCHES SO HEIGHT OF OPERATING HANDLE AT ITS HIGHEST POSITION IS MAXIMUM 78 INCHES ABOVE FLOOR.
2. PROVIDE LAMINATED PLASTIC NAMEPLATES FOR EACH PANELBOARD, EQUIPMENT ENCLOSURE, RELAY, SWITCH, AND DEVICE. EACH NAMEPLATE INSCRIPTION SHALL IDENTIFY THE FUNCTION AND, WHEN APPLICABLE, THE POSITION. NAMEPLATES SHALL BE MELAMINE PLASTIC, 0.125-INCH THICK, WHITE WITH BLACK CENTER CORE. SURFACE SHALL BE MATTE FINISH. CORNERS SHALL BE SQUARE, ACCURATELY ALIGN LETTERING AND ENGRAVE INTO THE CORE. MINIMUM SIZE OF NAMEPLATES SHALL BE 1 BY 2.5 INCHES. LETTERING SHALL BE A MINIMUM OF 0.25-INCH HIGH NORMAL BLOCK STYLE.
3. GROUNDING SHALL BE IN ACCORDANCE WITH NFPA 70. GROUND EXPOSED, NON-CURRENT-CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, METALLIC RACEWAY SYSTEMS, GROUNDING CONDUCTOR IN METALLIC AND NONMETALLIC RACEWAYS, AND NEUTRAL CONDUCTOR OF WIRING SYSTEMS.
4. CONDUCTORS NO. 8 AWG AND LARGER DIAMETER SHALL BE STRANDED ANNEALED COPPER. CONDUCTORS NO. 10 AWG AND SMALLER DIAMETER SHALL BE SOLID ANNEALED COPPER, EXCEPT THAT CONDUCTORS FOR REMOTE CONTROL, ALARM, AND SIGNAL CIRCUITS, CLASSES 1, 2, AND 3, SHALL BE STRANDED UNLESS SPECIFICALLY INDICATED OTHERWISE. CONDUCTOR SIZES AND AMPACITIES SHOWN ARE BASED ON COPPER, UNLESS INDICATED OTHERWISE. UNLESS SPECIFIED OR INDICATED OTHERWISE OR REQUIRED BY NFPA 70, POWER AND LIGHTING WIRES SHALL BE 600-VOLT, TYPE THHW/THHN ANNEALED COPPER, REMOTE-CONTROL, AND SIGNAL CIRCUITS SHALL BE TYPE TW, THW, OR TF ANNEALED COPPER. WHERE LIGHTING FIXTURES REQUIRE 90 DEGREE C CONDUCTORS, PROVIDE ONLY CONDUCTORS WITH 90 DEGREE C INSULATION OR BETTER.
5. MAKE SPLICES IN ACCESSIBLE LOCATIONS. MAKE SPLICES IN CONDUCTORS NO. 10 AWG AND SMALLER DIAMETER WITH INSULATED, PRESSURE-TYPE CONNECTOR. MAKE SPLICES IN CONDUCTORS NO. 8 AWG AND LARGER DIAMETER WITH SOLDERLESS CONNECTOR, AND COVER WITH INSULATION MATERIAL EQUIVALENT TO CONDUCTOR INSULATION.
6. PHASE CONDUCTORS SHALL BE IDENTIFIED BY COLOR CODING. THE COLOR OF THE INSULATION ON PHASES A, B, AND C RESPECTIVELY FOR THREE PHASE) OR PHASES A AND B RESPECTIVELY (FOR SINGLE PHASE) OF DIFFERENT VOLTAGE SYSTEMS SHALL BE AS FOLLOWS: 120/208 VOLT, 3-PHASE: BLACK, RED, AND BLUE.
7. UNLESS OTHERWISE INDICATED, THE WIRING METHOD SHALL CONSIST OF THE INSTALLATION OF INSULATED CONDUCTORS INSTALLED IN ELECTRICAL METALLIC TUBING, EXCEPT THAT CONDUIT OUTSIDE SHALL BE RIGID METALLIC TUBING. PROVIDE INSULATED GREEN EQUIPMENT GROUNDING CONDUCTOR IN FEEDER AND BRANCH CIRCUITS, INSTALLED IN CONDUIT OR RACEWAYS, INCLUDING LIGHTING CIRCUITS. GROUNDING CONDUCTOR SHALL BE SEPARATE FROM ELECTRICAL SYSTEM NEUTRAL CONDUCTOR. METAL CONDUIT SHALL EXTEND THROUGH SHAFTS FOR MINIMUM DISTANCE OF 6 INCHES. CONDUIT SIZES SHOWN ARE BASED ON USE OF COPPER CONDUCTORS WITH INSULATION TYPES AS INDICATED HEREIN. IF THE USE OF ALUMINUM CONDUCTORS IS ALLOWED, THE CONTRACTOR SHALL UPSIZE ALL CONDUITS ACCORDING TO NFPA 70. MINIMUM SIZE OF RACEWAYS SHALL BE 15 MM (1/2 INCH). ONLY METAL CONDUITS WILL BE PERMITTED WHEN CONDUITS ARE REQUIRED FOR SHIELDING OR OTHER SPECIAL PURPOSES INDICATED, OR WHEN REQUIRED BY CONFORMANCE TO NFPA 70.
8. ELECTRICAL METALLIC TUBING MAY BE INSTALLED ONLY WITHIN BUILDINGS. ELECTRICAL METALLIC TUBING MAY NOT BE INSTALLED IN CONCRETE OR EXTERIOR TO BUILDINGS. EMT SHALL NOT BE INSTALLED IN DAMP OR WET LOCATIONS. DO NOT USE IN AREAS SUBJECT TO SEVERE PHYSICAL DAMAGE INCLUDING BUT NOT LIMITED TO EQUIPMENT ROOMS WHERE MOVING OR REPLACING EQUIPMENT COULD PHYSICALLY DAMAGE THE EMT. BUSHINGS, MANUFACTURED FITTINGS OR BOXES PROVIDING EQUIVALENT MEANS OF PROTECTION SHALL BE INSTALLED ON THE ENDS OF ALL CONDUITS AND SHALL BE OF THE INSULATING TYPE, WHERE REQUIRED BY NFPA 70. ONLY UL LISTED ADAPTERS SHALL BE USED TO CONNECT EMT TO RIGID METAL CONDUIT, CAST BOXES, AND CONDUIT BODIES. DO NOT USE IN FIRE PUMP ROOMS. METALLIC CONDUITS AND TUBING SHALL BE SECURELY AND RIGIDLY FASTENED IN PLACE AS REQUIRED BY NFPA 70.
9. SINGLE AND DUPLEX RECEPTACLES SHALL BE RATED 20 AMPERES, 125 VOLTS, TWO-POLE, THREE-WIRE, GROUNDING TYPE WITH POLARIZED PARALLEL SLOTS. BODIES SHALL BE IVORY TO MATCH COLOR OF SWITCH HANDLES. RECEPTACLE SHALL BE SIDE-OR BACK-WIRED WITH TWO SCREWS PER TERMINAL. THE THIRD GROUNDING POLE SHALL BE CONNECTED TO THE METAL MOUNTING YOKE. SWITCHED RECEPTACLES SHALL BE THE SAME AS OTHER RECEPTACLES SPECIFIED EXCEPT THAT THE UNGROUNDED POLE OF EACH SUITABLE RECEPTACLE SHALL BE PROVIDED WITH A SEPARATE TERMINAL. ONLY THE TOP RECEPTACLE OF A DUPLEX RECEPTACLE SHALL BE WIRED FOR SWITCHING APPLICATION. RECEPTACLES WITH GROUND FAULT CIRCUIT INTERRUPTERS SHALL HAVE THE CURRENT RATING AS INDICATED, AND SHALL BE UL CLASS A TYPE UNLESS OTHERWISE SHOWN. GROUND FAULT CIRCUIT PROTECTION SHALL BE PROVIDED AS REQUIRED BY NFPA 70 AND AS INDICATED ON THE DRAWINGS.
10. WEATHER-PROOF RECEPTACLES SHOWN SHALL BE MOUNTED IN A BOX WITH A GASKETED, WEATHER-PROOF, CAST-METAL COVER PLATE AND GASKETED CAP OVER EACH RECEPTACLE OPENING.
11. WALL SWITCHES SHALL BE OF THE TOTALLY ENCLOSED TUMBLER TYPE. THE WALL SWITCH HANDLE AND SWITCH PLATE COLOR SHALL BE IVORY. WIRING TERMINALS SHALL BE OF THE SCREW TYPE OR OF THE SOLDERLESS PRESSURE TYPE HAVING SUITABLE CONDUCTOR-RELEASE ARRANGEMENT. SWITCHES SHALL BE RATED 20-AMPERE 120VOLT FOR USE ON ALTERNATING CURRENT ONLY. DIMMING SWITCHES SHALL BE SLIDE TYPE, SOLID-STATE, FLUSH MOUNTED, WITH PRESET LIGHT SETTINGS AND SIZED FOR THE LOADS.
12. DEVICE PLATES SHALL BE ONE-PIECE TYPE AND BE PROVIDED FOR ALL RECEPTACLES, OUTLETS, SWITCHES AND FITTINGS. PLATES ON UNFINISHED WALLS AND ON FITTINGS SHALL BE OF ZINC-COATED SHEET STEEL, CAST-METAL, OR IMPACT RESISTANT PLASTIC HAVING ROUNDED OR BEVELED EDGES. PLATES ON FINISHED WALLS SHALL BE IMPACT-RESISTANT PLASTIC AND SHALL BE IVORY. PLATES SHALL BE INSTALLED WITH ALL FOUR EDGES IN CONTINUOUS CONTACT WITH FINISHED WALL SURFACES WITHOUT THE USE OF MATS OR SIMILAR DEVICES. PLASTER FINISHES WILL NOT BE PERMITTED. PLATES SHALL BE INSTALLED WITH AN ALIGNMENT TOLERANCE OF 16 MM (1/16 INCH). THE USE OF SECTIONAL-TYPE DEVICE PLATES WILL NOT BE PERMITTED. PLATES INSTALLED IN WET LOCATIONS SHALL BE GASKETED AND PROVIDED WITH A HINGED, GASKETED COVER, UNLESS OTHERWISE SPECIFIED.
13. MOUNT LIGHTING SWITCHES 48 INCHES ABOVE FINISHED FLOOR, RECEPTACLES 18 INCHES ABOVE FINISHED FLOOR, AND OTHER DEVICES AS INDICATED. MEASURE MOUNTING HEIGHTS OF WIRING DEVICES AND OUTLETS TO TOP OF DEVICE OR OUTLET.
14. CEILING FIXTURES SHALL BE COORDINATED WITH AND SUITABLE FOR INSTALLATION IN, ON, OR FROM THE SUSPENDED CEILING SPECIFIED ON THE ARCHITECTURAL PLANS. THE CONTRACTOR MUST VERIFY THE CEILING TYPES PRIOR TO ORDERING THE FIXTURES. INSTALLATION AND SUPPORT OF FIXTURES SHALL BE IN ACCORDANCE WITH THE NFPA 70 AND MANUFACTURER'S RECOMMENDATIONS. PROVIDE SEISMIC RESTRAINTS FOR ALL LIGHT FIXTURES SPECIFIED HEREIN. RECESSED FIXTURES SHALL HAVE ADJUSTABLE FITTINGS TO PERMIT ALIGNMENT WITH CEILING PANELS. RECESSED FIXTURES INSTALLED IN FIRE-RESISTIVE TYPE OF SUSPENDED CEILING CONSTRUCTION SHALL HAVE THE SAME FIRE RATING AS THE CEILING OR SHALL BE PROVIDED WITH FIREPROOFING BOXES HAVING MATERIALS OF THE SAME FIRE RATING AS THE CEILING PANELS, IN CONFORMANCE WITH UL-03. SURFACE-MOUNTED FIXTURES SHALL BE SUITABLE FOR FASTENING TO THE STRUCTURAL SUPPORT FOR CEILING PANELS.
15. PROVIDE NECESSARY JUNCTION BOXES, PULL BOXES, PULL WIRES, COVER PLATES AND OTHER MISCELLANEOUS EQUIPMENT WHICH IS NOT SHOWN ON THE CONTRACT DOCUMENTS BUT NECESSARY TO COMPLETE THE WORK.
16. PROVIDE FIRESTOPPING AROUND ELECTRICAL PENETRATIONS IN ACCORDANCE WITH FIRESTOPPING REQUIREMENTS. PROVIDE ASBESTOS FREE FIRESTOPPING SYSTEM CAPABLE OF MAINTAINING AN EFFECTIVE BARRIER AGAINST FLAME AND GASES. SYSTEM SHALL BE UL LISTED AND COMPLY WITH ASTM E 814.
17. CLEAN, PRIME AND PAINT ELECTRICAL EQUIPMENT AND THE EXPOSED PORTION OF THE CONDUIT SYSTEM TO MATCH THE FINISH OF THE ADJACENT SURFACES OR TO MEET THE INDICATED OR SPECIFIED SAFETY CRITERIA OR TO MEET THE COLOR SCHEME SET BY THE ARCHITECT. PAINTING SHALL BE AS SPECIFIED IN SECTION 09900, "PAINTING".
18. PROVIDE PRE-LABELED, SNAP AROUND PIPE MARKERS ON ALL CONDUITS. MARKERS SHALL COMPLY WITH ANSI A 13.1-1988 STANDARDS AND INDICATED VOLTAGE.
19. PROVIDE ALL NECESSARY WIRE, CONDUIT AND EQUIPMENT TO SUPPLY POWER TO THE HEATING, VENTILATION AND AIR CONDITIONING EQUIPMENT. CONTROL WIRING AND CONDUIT SHALL BE PROVIDED UNDER DIVISION 15.
20. COORDINATE WORK WITH OTHER TRADES AND ARRANGE INSTALLATION TO AVOID CLASHES BETWEEN EQUIPMENT, WORK OF OTHER TRADES AND BUILDING STRUCTURE.



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## DEPARTMENT OF CHILDREN & FAMILIES

505 HUDSON STREET  
HARTFORD, CT

REVISIONS		
NO.	DATE	DESCRIPTION

## BASEMENT OFFICE HVAC SYSTEM RENOVATIONS

SILVERMINE HALL  
RIVERVIEW HOSPITAL  
MIDDLETOWN, CT

## SPECIFICATIONS

DATE: 23 JULY 07  
PROJECT NO: 27016.00  
DRAWN: JJR  
CHECKED: JJR  
ISSUED FOR: CONSTRUCTION  
REVISIONS: -

SHEET NO.

M4