REQUEST

FOR

BIDS

NHTI – SWEENEY HALL

VENTILATION - MECHANICAL UPGRADE

at

NHTI - CONCORD'S COMMUNITY COLLEGE

4 Institute Drive, Concord, NH

A COMPONENT OF THE

Community College System of New Hampshire

26 College Drive, Concord, NH

Project # CON20-02

DATE: September 18, 2019

DOCUMENT 00015

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END OF SECTION

SECTION 00010 - INVITATION TO BID – CCSNH

Electronic Bids per the Project Manual Technical Specifications will be accepted by email to Matthew Moore, Director of Capital Planning and Development at memoore@ccsnh.edu until **Thursday, October 10, 2019 at 2:00pm** for the following project:

CON20-02 Sweeney Hall Ventilation-Mechanical Upgrade

September 18, 2019

at NHTI Concord's Community College, 4 Institute Drive, Concord, NH,
a Component of the Community College System of New Hampshire
26 College Drive, Concord, NH

Project # CON20-02

Description: This project consists of Mechanical Renovations, Sweeney Hall. Remove the existing glycol//water ventilation air preheat system that was installed in 1983. Remove piping, ductwork, HVAC equipment, Plumbing, Specialties and incidentals as required.
Provide all items, articles, materials, operations or methods listed, mentioned, scheduled on the drawings and/or specified herein including all labor, materials, equipment and incidentals necessary and required for project completion. Including but not limited to: Mechanical Equipment (Coils, Fans, Heat Exchanger Core, etc.; Sleeves and Flashings; Testing and Balancing; Pipe and Pipe Fittings; Equipment Supports; Valves and Cocks; Pipe Insulation; Duct Insulation; Ductwork; ATC

The Project will include but not be limited to the Disciplines of: Mechanical work, and Electrical work.

Plans and specifications will be available from the Community College System of New Hampshire, **September 18, 2019 on the CCSNH website** www.ccsnh.edu/open-bids

Plans and specifications will also be available at the following printers:

- Signature Press and Blueprinting, Inc., 45 Londonderry Turnpike, Rte. 28 Bypass, Hooksett, NH 03106;
- Construction Summary of NH: Inc., 734 Chestnut Street, Manchester, NH 03104;
- Infinite Imaging: 933 Islington Street, Portsmouth, NH 03801
- Minuteman Press: 109 Gosling Road, Newington, NH 03801;
- Works in Progress, 20 Farrell Street, Suite 103, South Burlington, VT 05403
- The Blue Book, http://www.thebluebook.com/
- Community College System of New Hampshire website www.ccsnh.edu/open-bids

BIDDERS SHOULD ACT PROMPTLY AND SUBMIT ALL QUESTIONS IN WRITING TO: MATTHEW MOORE, DIRECTOR OF CAPITAL PLANNING AND DEVELOPMENT, E-MAIL memoore@ccsnh.edu .

A MANDITORY SITE VISIT WILL NOT BE HELD.
To schedule a non-mandatory site visit contact Jason Bishop at jbishop@ccsnh.edu (603) 230-4042.

Project substantial completion date is **April 2, 2020.**

Proposals must be completed in both words and figures on forms furnished by the College, or on previously-approved, substantially-identical forms generated by computer software, which shall be submitted electronically in an e-mail titled: **"Bid for: CON20-02 Sweeney Hall Ventilation-Mechanical Upgrade"** received by MATTHEW MOORE at **memoore@ccsnh.edu** as specified no later than **2:00 PM**, **Thursday, October 10, 2019.**

Companies, corporations or trade names, except sole proprietorships must be registered with the Secretary of State (Corporate Division, Telephone No. 603/271-3244) in order to do business with the State of New Hampshire.

Bidders must show three recent years' experience with installations of a similar complexity and cost and prior experience with installations of the materials within 50 miles of the project site.

The successful bidder will be required to comply with State of New Hampshire RSA#21-1:81-a. The successful bidder will be required to furnish a 100% payment and 100% performance bond prior to execution of contract.

The award will be based on the proposal that best meets the needs of the college. Factors included will be the cost, completeness of the proposal, quality of the technology provided, and experience of the contractor and installation team. The college reserves the right to waive any informality in or to reject any or all proposals.

All contract documents can be found on the CCSNH website at www.ccsnh.edu/open-bids
Before your submission, always check for any addenda or other materials that may have been issued which would affect the invitation to bid by checking the CCSNH website at www.ccsnh.edu/open-bids

CCSNH reserves the right to waive any and all informalities in its best interest or to reject any or all proposals.

Matthew Moore, PE,
Director of Capital Planning & Development
Community College System of New Hampshire

END OF DOCUMENT

DOCUMENT 001153 - REQUEST FOR QUALIFICATIONS

1.1 PURPOSE, LAWS, AND REGULATIONS

A. The purpose of the Prequalification Procedure described in this Document is to provide Owner with a mechanism to evaluate and determine whether Prospective Bidders are qualified to participate in the construction of Project. Evaluation will be limited to that office of the Prospective Bidder that is proposed to perform the Work.

1.2 DEFINITIONS

A. Prospective Bidder: A Prospective Bidder is a person or entity who submits a Submittal of Qualifications to Owner.

1.3 QUALIFICATION PROCEDURES

A. Prospective Bidders shall complete all required forms and attachments described in the Prequalification Documents, entering "Not Applicable" where information does not apply. Absence of any of the forms included in the Prequalification Documents will be reason for possible disqualification. All required qualification forms to be submitted with Bid forms.

B. Status of Prospective Bidders:

1. Proprietors submitting bids shall indicate their status as proprietors.
2. Prospective Bidders submitting qualifications for partnerships shall indicate their status as partners and shall submit a certified copy of the power of attorney authorizing the executor of the submittal to bind the partnership.
3. Prospective Bidders submitting qualifications for corporations shall indicate their status as corporations and shall submit a certified copy of the board of directors' authorization for the Prospective Bidder to bind the corporation and shall affix the corporate seal on the submittal.
4. Prospective Bidders shall provide the following:

    a. Names and addresses of proprietors, of all members of a partnership, or of the corporation's officers.
    b. Name of jurisdiction where the partnership is registered or where the corporation is incorporated. Corporations must be licensed to do business in Project state at the time of executing the Contract.

1.4 WITHDRAWAL

A. A Qualification Statement may be withdrawn on personal request received from the Prospective Bidder.

1.5 QUALIFICATION STATEMENT

A. The undersigned submits answers to the following questions to enable the Community College System of New Hampshire to judge experience and ability in the work proposed to be done.

1. The work, if awarded to you, will have the resident personal supervision of whom? State his/her name, title, and their special qualifications.

_____
_____
_____
_____

2. (a) Provide a brief history of your firm. (b) Demonstrate that your firm has provided satisfactory work on similar projects.

a)_____
_____
_____
_____

b)_____
_____
_____
_____

3. How many years has your organization been in business as a contractor under the name in which you propose to execute this contract?

_____

4. Has your present organization ever failed to complete any work awarded to it? If so, state when, where and why:

_____

5. Provide three (3) Examples of Experience with full responsibility for work of a similar size to this project and within 50 miles of the project site.

Qualifications to perform the work: List Three
Experience with full responsibility for work of a similar size and within 50 miles of the project site.
Bidders are to provide evidence of qualifications with the bid.

NAME OF REFERENCE PROJECT _____ _____

Location of Project _____ _____

Date work performed _____ _____

Name of Owner
Contact Name & Phone Number _____ _____

Description of Project _____ _____

Approx. Contract value _____ _____

NAME OF REFERENCE PROJECT _____ _____

Location of Project _____ _____

Date work performed _____ _____

Name of Owner
Contact Name & Phone Number _____ _____

Description of Project _____ _____

Approx. Contract value _____ _____

NAME OF REFERENCE PROJECT _____

Location of Project _____ _____

Date work performed _____ _____

Name of Owner
Contact Name & Phone Number _____ _____

Description of Project _____ _____

Approx. Contract value _____ _____

Revised 4/17/18

DOCUMENT 00204

INSTRUCTIONS TO BIDDERS – Community College System of New Hampshire (CCSNH)
Issued 2-05-2004; Revised as noted

PART	ITEM
1	DEFINITIONS
2	PREPARATION AND SUBMISSION OF BIDS
3	RECEIPT AND OPENING OF BIDS
4	WITHDRAWAL OF BIDS
5	PROPOSAL GUARANTY (intentionally omitted)
6	CONDITIONS AT SITE OR BUILDING
7	EXPLANATION TO BIDDERS
8	REJECTION OF BIDS
9	CONTRACT BOND
10	CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE
11	BIDDING DOCUMENTS
12	SUBSTITUTIONS
13	AWARD OF CONTRACT
14	PERMITS AND FEES

PART 1 DEFINITIONS

1.1 Refer to Document 00708: General Conditions – CCSNH:

PART 2 PREPARATION AND SUBMISSION OF BIDS

2.1 The Bidder is required to bid on all items called for in the Proposal. If Alternates are included, the Bidder shall set forth in the space provided the amount to be added to or deducted from the Lump Sum Base Bid or the Lump Sum Grand Total. If an Alternate called for does not involve a change in price, the Bidder shall so indicate in the space provided.

2.2 Bids shall be submitted upon the Proposal Form furnished and shall be signed in ink. The Bidder shall specify a unit price, both in words and figures, for each item called for in the Lump Sum Grand Total Proposal. All of the words and figures shall be in ink or typed. If a unit price or a Lump Sum Grand Total already entered by the Bidder on the Proposal Form is to be altered, it should be crossed out with ink, the new unit price and the Lump Sum Grand Total bid entered above or below it and initialed by the Bidder; also in ink. In case of discrepancy between the prices written in words and those written in figures, the prices written in words shall govern. Bids containing any conditions, omissions, unexplained erasures or alterations, or items not called for in the Proposal or irregularities of any kind may be rejected by the Chancellor as being incomplete non-conforming, or non-responsive.

2.3 Each bid must contain the full business address of the Bidder and be signed by him/her with his/her usual signature.

A. Bids by a partnership of any form must furnish the full names of all partners, and must be signed in the partnership name by one of the members of the partnership or by an authorized representative, followed by the designation of the person signing. All Contracts with partnerships must include a certificate of authorization demonstrating that the partner(s) or authorized individuals have been authorized by the partnership to enter into the Contract on behalf of the partnership.

B. Bids by a corporation of any form must be signed with the legal name of the corporation, followed by the name of the State of incorporation and by the signature and designation of the president, secretary or other person authorized to bind it in the matter. The name of each person signing shall also be typed or printed below the signature. [*A bid by a person who affixes to his/her signature, the word "President," "Secretary," "Agent" or other designation, without disclosing whom he/she is representing if other than the contracting entity noted above, may be held to the bid of the individual signing.*]

C. Bids by proprietorships (individuals), or by individuals with a registered trade name, or doing business under an assumed name (aka d/b/a), shall be executed by the individual in their name, with reference to the trade name or assumed name.

2.4 Bids to be scanned and transmitted by electronic mail to memoore@ccsnh.edu no later than the bid deadline.

PART 3 RECEIPT AND OPENING OF BIDS

3.1 The bid opening officer will decide when the specified time has arrived, and no bid received or presented thereafter will be considered. No responsibility or liability will be attached to any officer for the premature opening of a bid not properly addressed and identified.

PART 4 WITHDRAWAL OF BIDS

4.1 A bid may be withdrawn upon written request received from the bidder at the Director of Capital Planning and Development office at 26 College Drive, Concord, NH 03301-7407, with reasonable time prior to the time fixed for opening. Negligence on the part of the bidder in preparing the bid confers no right for the withdrawal of the bid after it has been opened.

PART 5 PROPOSAL GUARANTY (intentionally omitted)

PART 6 CONDITIONS AT SITE OR BUILDING

6.1 Bidders shall visit the site and be responsible for having ascertained pertinent local conditions; such as location, accessibility and general character of the site or building, the character and extent of existing work within or adjacent to the site, and any other work being performed thereon at the time of submitting the bid.

PART 7 EXPLANATION TO BIDDERS

7.1 No oral explanation in regard to the meaning of the Bidding Documents will be made and no oral instructions will be given before the award of the Contract. Discrepancies, omissions or doubts as to the meanings of Bidding Documents shall be communicated in writing to the Director of Capital Planning and Development for interpretation no later than five (5) working days before the hour and date set for the bid opening. Any interpretations will be in the form of an Addendum to the Bidding Documents that will be forwarded to all Bidders of record and sent to all other locations identified in the Invitation to Bid where documents are made available.

PART 8 REJECTION OF BIDS

8.1 The Chancellor reserves the right to reject any or all bids, to waive technicalities or to advertise for new bids, if in his/her judgment, the best interests of the State will be promoted thereby. The Chancellor reserves the right to reject the bid of a Bidder who is not in a position to perform the Contract.

8.2 The Chancellor reserves the right to waive any informality in bids received, if in the best interest of the CCSNH.

8.3 The Chancellor reserves the right to reject any Bidders not meeting all stated requirements.

PART 9 CONTRACT BOND

9.1 The successful Bidder, at the time of the execution of the Contract, must deposit with the Chancellor, Surety in the sum equal to one hundred percent (100%) of the amount of the Contract as required by RSA 447:16. The form of Bond shall be that provided for by the CCSNH and the Surety shall be acceptable to the Chancellor. The Contract Bond must be written by a Company licensed to do business in New Hampshire at the time the policy is issued. In addition, the Company issuing the bond shall be listed on the current list of "Surety Companies Acceptable on Federal Bonds" as published by the U.S. Department of the Treasury, Financial Management Services, Circular Number 570. see http://www.fms.treas.gov/c570/index.html

PART 10 CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE

10.1 The Contractor shall deliver to the Chancellor at the time of submitting a signed Contract, certificates of all insurance required hereunder. The certificates of insurance shall contain a description of the project, including the project name and number, and shall state that the companies issuing insurance will mail to the Chancellor thirty (30) days' notice of cancellation, alteration of material change of any listed policies or ten (10) days in cases of non-payment of premium. The Contractor shall keep in force the insurance required herein for the period of the Contract, through the Warranty period. and Owners and Contractors Protective (OCP) Liability coverage shall be kept in force through the date of Substantial Completion, or longer at the Director of Capital Planning and Development's direction. The Contractor shall have a continuing duty to provide new certificates of insurance as policies are amended or renewed. At the request of the Chancellor, the Contractor shall promptly make available a copy of any and all listed insurance policies. The required insurance must be written by a Company licensed to do business in the State of New Hampshire at the time the policy is issued. In addition, the company must have a rating of no less than A- based on the current A.M. Best with a size of VIII and satisfying and the terms and conditions described below or the minimum limits required of the Prime Contractor under the Contract Documents.

10.2 Prior to the start of the Contractor's Work, the Contractor and any subcontractors, consultants or third parties approved to perform Services pursuant to this contract, will carry, in full force and effect during the entire term of this Agreement, insurance with a carrier rated at minimum "A-" by A.M. Best with a size of VIII and satisfying and the terms and conditions described below or the minimum limits required of Prime Contractor under the Contract Documents.

A. Commercial General Liability (CGL) with limits of Insurance of not less than $1,000,000 each occurrence and $2,000,000 Annual Aggregate.

.1) If the CGL coverage contains a General Aggregate Limit, such General Aggregate shall apply separately to each project.

.2) CGL coverage shall be written on ISO Occurrence form CG 00 01 (10/93) or a substitute form providing equivalent coverage and shall cover liability arising from premises, operations, independent contractors, products- completed operations, and personal and advertising injury.

.3) Owner and all other parties required of the Contractor, shall be included as insured's on the CGL, using ISO Additional Insured Endorsement CG 20 10 (11/85) or CG 2010 (10/93) **AND** CG 20 37 (10/01) or CG2033(10/01) **AND** CG2037 (10/01) or an endorsement providing equivalent coverage to the additional insured's. This insurance for the additional insured's shall be as broad as the coverage provided for the named insured Contractor. It shall apply as Primary and non-contributing Insurance before any other insurance or self-insurance, including any deductible, maintained by, or provided to, the additional insured.

.4) Contractor shall maintain CGL coverage for itself and all additional insured's for the duration of the project and maintain Completed Operations coverage for itself and each additional insured for at least 7 years after completion of the Work.

.5) If Contractor is performing snow removal the policy must include the addition of CG 22 92 12 07 for Snow Removal Operations Coverage or equivalent

10.3 Commercial Automobile Liability

.1) Business Auto Liability with limits of at least $1,000,000 for each accident.

.2) Business Auto coverage must include coverage for liability arising out of all owned, leased, hired and non-owned automobiles.

.3) Owner and all other parties required of the Contractor, shall be included as additional insured's on the auto policy.

10.4 Commercial Umbrella

.1) Umbrella limits must be at least $2,000,000.

.2) Umbrella coverage must include as insured's all entities that are additional insured's on the CGL and coverage shall be as broad as provided on the underlying coverages.

10.5 Workers Compensation and Employers Liability

.1) Employers Liability Insurance limits of at least $500,000 each accident for bodily injury by accident and $500,000 each employee for injury by disease.

.2) Where applicable, U.S. Longshore and Harborworkers Compensation Act Endorsement shall be attached to the policy.

.3) Where applicable, the Maritime Coverage Endorsement shall be attached to the Policy.

.4) All employees, including the Owner, partners and officers, shall provide proof of workers' compensation coverage prior to working on the job site.

10.6 Waiver of Subrogation

.1) To the fullest extent permitted by law, Contractor waives all rights against Owner and Architect and their agents, officers, directors and employees for recovery of damages to the extent these damages are covered by commercial general liability, commercial umbrella liability, business auto liability or workers compensation and employers liability insurance where acceptable by law.

10.7 Pollution Liability Insurance

.1) Pollution Limits with at least $1,000,000 each occurrence, claim or wrongful act with an aggregate of $1,000,000 for bodily injury, property damage, pollution or environmental harm arising out of the work, asbestos, lead, or silica related claims, claims arising out of microbial matter or bacteria, testing, monitoring, measuring operations or laboratory analyses, or liability arising out of treatment facility. If a motor vehicle is used in connection with the work,

the business automobile policy will include coverage at least as broad as ISO CA 99 48 and be endorsed to include Motor Carrier Act Endorsement MCS 90.

.2) The policy must meet all other insurance requirements applicable to general liability, including, but not limited to additional insured, waiver of subrogation and cancellation notification.

.3) If there is a retroactive date, claims made will apply back to the first date of services provided to the Owner.

.4) The coverage shall be effective for 5 years following completion of the engagement.

.5) Proof of Pollution Liability Insurance shall be provided on a certificate acceptable to the Owner.

10.8 Attached to each certificate of insurance shall be a copy of the Additional Insured Endorsement that is part of the Contractor's Commercial General Liability Policy. These certificates and the insurance policies required shall contain a provision that coverage afforded under the policies will not be canceled or allowed to expire until at least 30 days prior written notice has been given to the Owner. Any subcontractors, consultants or third parties performing services for Contractor as contemplated herein, shall also maintain insurance as required above. Notwithstanding the foregoing, the Owner, in its sole and absolute discretion and taking into account the scope and character of the Services to be provided by Contractor, may reduce the required liability insurance minimums. Such reduction in the required liability insurance minimum of Contractor

shall be evidence by a written instrument specifically referencing this Exhibit I and signed by the Owner.

10.9 The Contractor shall require each Subcontractor employed on the Project to maintain the coverage listed above unless the Contractor's insurance covers activities of the Subcontractor on the Project.

10.10 No operations under this Contract shall commence until certificates of insurance attesting to the above listed requirements have been filed with the Chancellor and a Notice to Proceed is issued.

A. If blasting and/or demolition is required by the Contract, the Contractor or subcontractor shall obtain the respective coverage for those activities, and shall furnish to the Chancellor a Certificate of Insurance evidencing the required coverages prior to commencement of any operations involving blasting or demolition or both.

B. Owner's and Contractor's Protective Liability (OCP) coverage for the benefit of the Community College System of New Hampshire.
   1. Limits of Liability:
      a. $2,000,000 Each Occurrence
      b. $3,000,000 Aggregate

      ****** [OR] ******

      c. $2,000,000 Bodily Injury & Property

C. Property and Builder's Risk Insurance (Fire and Extended Coverage):
   1. The Community College System of New Hampshire shall insure the work included in the Contract, including extras and change orders, on an "All Risk" basis, on one hundred percent (100%) completed value basis of the Contract, as modified. Builder's Risk coverage shall include materials located at the Contractor's premises, on-site, in-transit, and at any temporary site. The policy by its own terms or by endorsement shall specifically permit partial or beneficiary occupancy prior to completion or acceptance of the entire work. The policies shall be in the names of the Community College System of New Hampshire and the Contractor. The policies shall provide for the inclusion of the names of all other Contractors, Subcontractors, and others employed on the premises as insureds. The policies shall stipulate that the insurance companies shall have no right of subrogation against any Contractors, Subcontractors or other parties employed on the premises.
   2. CCSNH is not responsible to insure Contractor's owned or leased equipment/property.

D. General Insurance Conditions
   1. Failure to secure and maintain, or add by endorsement, Owner and all subsidiaries, agents, and employees as required shall not act as a defense to the enforcement of the terms of this Contract. Any such insurance policy shall apply separately to each insured against whom claim is made or suit is brought and shall contain no provision which excludes coverage of a claim made by one insured under the policy against another insured under the policy.
   2. Each policy shall contain a clause prohibiting cancellation or modifications of the policy earlier than thirty (30) days or ten (10) days in cases of non-payment of premium after written notice thereof has been received by CCSNH.

E. Indemnification:

1. To the fullest extent of the law the Contractor shall indemnify, defend, and hold harmless the Community College System of New Hampshire, its Officers, and its agents and employees from and against any and all claims, liabilities, suits or penalties arising out of (or which may be claimed to arise out of) acts or omissions of the Contractor or subcontractors in the performance of work covered by the Contract. This covenant shall survive the termination of the Contract. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the Community College System of New Hampshire, which immunity is hereby reserved by the Community College System of New Hampshire. The covenant in paragraph I shall survive the termination of this Agreement.

F. Additional Insurance for Design/Build Contracts:

1. In addition to the insurance requirements listed in the above paragraphs, the Designer/Builder Team shall provide the following coverage.

a. The Designer/Builder Team, or the Designer shall purchase and maintain professional liability coverage for this project. The coverage shall provide the CCSNH with protection against design errors and omissions and shall have an annual aggregate limit of no less than $2,000,000. The coverage shall be maintained through the legal stature of repose period, currently stipulated to be three (3) years from the date of Substantial Completion. If the professional liability coverage is maintained by other than the firm holding the prime contract with the CCSNH for this project, the prime contractor shall provide evidence of indemnifications, approved by the CCSNH, that indicate that this insurance coverage is in place and available for the protection of the CCSNH. The indemnification may not create a re-assignment of contractual responsibilities between the CCSNH and the prime contractor.

PART 11 BIDDING DOCUMENTS

11.1 Bidders shall use only complete sets of Bidding Documents in preparation of bids; the CCSNH assumes no responsibility for mistakes due to the use of incomplete sets of Bidding Documents.

PART 12 SUBSTITUTIONS

12.1 Where Bidding Documents stipulate particular Products, substitution requests will ONLY be considered before receipt of Bids. Refer to specification section 01600 – Product Requirements.

PART 13 AWARD OF CONTRACT

13.1 The Contract will be Awarded as soon as possible to the Responsible Bidder on the basis of the Highest Score, see Score Sheet in Section 00300.

A. The CCSNH may request a Negotiated Price from the Highest Score Responsible Bidder.

13.2 The signed Contract, together with the Contract Bond, and certificate of insurance shall be returned to the CCSNH within 10 days after the date of notice that the Proposal has been accepted.

A. If the successful bidder fails to execute the Contract and submit acceptable bond and required attachments within 20 days after the date of notice of acceptance of the Proposal, the CCSNH may cancel the notice of award. Contract award may then be made to the next lowest responsible bidder or the Work may be re-advertised.

13.3 Prior to the issuance of Notice to Proceed, each Bidder shall be prepared, if so requested by the Chancellor, to present evidence of his/her experience, qualifications, and financial ability to carry out the terms of the Contract.

13.4 A Contract that has been Awarded with required attachments is not executed until submitted and approved by the CCSNH Board of Trustees, if required, and issuance of the Notice to Proceed by the CCSNH.

PART 14 PERMITS AND FEES

14.1 CCSNH shall secure and pay for all Permits and Fees required by the Work of this Contract. The Contractor shall provide CCSNH required permit information and call for and coordinate SFMO inspections.

END OF DOCUMENT 002004

SECTION 00300 – BID PROPOSAL FORM – CCSNH

PROPOSAL – STIPULATED BASE LUMP SUM GRAND TOTAL BID – GENERAL CONSTRUCTION

PROPOSAL TO: **Received no later than 2:00 PM, Thursday, October 10, 2019**
Matthew Moore, PE
memoore@ccsnh.edu
Director of Capital Planning & Development
Community College System of New Hampshire
26 College Drive
Concord, New Hampshire 03301

SUBJECT: Project # CON20-02 Sweeney Hall Ventilation-Mechanical Upgrade

1. CERTIFICATION: The undersigned Prime Contractor

   Name of Firm: _____

   Signature:_____

   Name and Title:_____
   (Contractor's Name Printed Here)

   certifies that they have examined and fully comprehend the requirements and intent of the Bidding and Contract Documents for this Project, including any and all Addenda issued, and also certifies that they have visited the location of the Project work and examined all conditions at the site which will affect the work.

2. BASE BID (STIPULATED LUMP SUM GRAND TOTAL)

   The undersigned Contractor proposes to furnish all labor, materials, equipment, services and related items necessary for, or incidental to, the proper execution and completion of the Work in strict conformance with the Bidding and Contract Documents, on or before the time of completion specified, for the Stipulated Sum for Materials plus Labor of:

   LUMP SUM GRAND TOTAL BID AMOUNT:

   _____
   (Words)

   _____DOLLARS ($_____)
   (Figures)

3. ADDENDUM RECEIPT

The undersigned Contractor acknowledges the receipt of the following Addenda to the Bidding and Contract Documents, but he agrees that he is bound by all Addenda, whether or not listed herein:

Addendum No._____Dated:_____

Addendum No._____Dated:_____

Addendum No._____Dated:_____

All required qualification forms found in

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to be submitted with Bid forms.

STATEMENT OF NON-COLLUSION

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his knowledge and belief: (1) The prices in this bid have been arrived at independently without collusion, consultation, communications, or agreement, for the purpose of restricting competition as to any matter relating to such prices with any other bidder or with any competitor; (2) Unless required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any other competitor, and (3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

SIGNATURE:_____

NAME:_____

TITLE:_____

DATE:_____

PHONE:_____

EMAIL:_____

Corporate Seal:

DOCUMENT 00708

GENERAL CONDITIONS – COMMUNITY COLLEGE SYSTEM OF NEW HAMPSHIRE (CCSNH)

PART	ITEM
1	DEFINITIONS
2	CONTRACT DOCUMENTS
3	NOTICE
4	ACCESS TO THE WORK
5	ACCIDENT PROTECTION
6	HAZARDOUS MATERIALS
7	SUBCONTRACTS
8	RESPONSIBILITY OF CONTRACTOR TO ACT IN EMERGENCY
9	MUTUAL RESPONSIBILITY OF CONTRACTORS
10	PAYMENTS TO CONTRACTOR
11	CONTRACTOR'S TITLE TO MATERIALS
12	CHANGES IN WORK
13	ASSIGNMENTS
14	SUPERINTENDENCE BY CONTRACTOR
15	FAILURE TO COMPLETE WORK ON TIME
16	SUBSTANTIAL COMPLETION AND FINAL INSPECTION
17	DEFAULT AND TERMINATION OF CONTRACT
18	TERMINATION OF CONTRACT WITHOUT FAULT
19	ASSIGNMENT PROVISION

PART 1 DEFINITIONS

A. **Addendum.** Written and/or graphic information issued before opening *Proposals* that modifies or interprets the *Bidding Documents* by additions, deletions, clarifications or corrections.

B. **Advertisement.** A public announcement in the form of an *Invitation to Bid*, inviting *Bids* for *Work* to be performed and/or *Materials* to be furnished.

C. **Alteration Order.** A written agreement between the *Contractor* and the *Community College System of New Hampshire* that amends the *Contract* and identifies *Work* that affects either the *Contract Sum*, *Completion Date*, *Credit*, or any combination thereof.

D. **Alternate.** A proposed change in the *Work* described in the *Contract Documents* providing the *Community College System of New Hampshire* with an option to select between alternative materials, products or systems, or to add or delete portions of *Work*.

E. **Architect.** As defined in RSA 310-A:28, a person who, by reason of having acquired through professional education and practical experience an advanced training in building construction and architectural design and an extensive knowledge of building standards created to safeguard the public from hazards such as fire, panic, structural failure, and unsanitary conditions, is technically and legally qualified to practice architecture and who is licensed by the State of New Hampshire Board of Licensure for Architects to engage in the practice of architecture. The Architect has no contractual agreement with the *Contractor* and therefore shall not directly interact with the *Contractor*.

F. **Award.** The acceptance of a *Bid* prior to execution of *Contract*.

G. **Bid.** A complete and properly signed *Proposal*, submitted in accordance with the *Bidding Requirements*, to perform the *Work* for the amount or amounts stipulated therein.

H. **Bid Bond.** One form of a *Proposal Guaranty* executed by the *Bidder* and a *Surety* to guarantee that the *Bidder* will enter into a *Contract* within a specified time.

I. **Bid Opening Officer.** An authorized representative of the Community College System of New Hampshire, who is responsible for opening and reading of *Bids*.

J. **Bidder.** A *Corporation*, *Partnership*, or *Proprietorship* submitting a *Proposal*, subsequent to meeting the Community College System of New Hampshire's *Bidding Requirements*.

K. **Bidding Documents.** Collectively, the *Invitation to Bid*, *Bidding Requirements*, *Specifications*, *Drawings*, and *Addendum*.

L. **Bidding Requirements.** The documents that contain information regarding bidding procedures with which a *Bidder* must conform and a *Proposal* that a *Bidder* shall use to submit a *Bid*.

M. **Builders Risk Insurance.** A specialized form of property insurance that provides coverage for loss or damage during the course of construction.

N. **Calendar Day.** A day shown on the calendar.

O. **Certificate of Occupancy.** A document issued by the Office of the State Fire Marshal or its authorized representative certifying that all of, or a designated portion of a building, is approved for its designated use.

P. **Certificate of Full or Partial Substantial Completion.** A document prepared by the *Community College System of New Hampshire* when the *Project* reaches *Substantial Completion and only* issued after review and acceptance of the *Contractor's Request for Certificate of Full or Partial Substantial Completion*.

Q. **Chancellor.** The Chancellor of the Community College System of New Hampshire.

R. **Change Order.** A written agreement between the *Contractor* and the *Community College System of New Hampshire* that identifies *Work* to be completed as part of an Allowance Item. Any change that affects either the *Contract Sum*, Contract Time or *Credit* shall be processed as an *Change Order*.

S. **Clerk of the Works.** An authorized representative identified by the *Community College System of New Hampshire*, responsible for observing construction on the *Community College System of New Hampshire*'s behalf for conformance with the *Contract Documents*.

T. **College.** The college who is responsible for the facility and/or will occupy the facility after and/or during the Work. The College(s) has/have no contractual agreement with the *Contractor* and therefore shall not direct the *Contractor* in any way.

U. **Commercial General Liability Insurance.** A broad form of liability insurance covering claims for bodily injury and property damage which combines under one policy coverage for business liability exposures, except those specifically excluded.

V. **Completion Date.** The last day of the time allotted or the specific date established as identified in the *Contract Documents* for *Substantial Completion* of the *Work*, including any authorized extensions.

W. **Consultant.** The *Architect*, *Engineer*, and/or professional engaged to develop/provide *Drawings*, *Specifications* and/or other services for the *Project*. The Consultant has no contractual agreement with the *Contractor* and therefore all interaction between any Consultant and the *Contractor* shall be done thru the *Contract Representative*.

X. **Contract.** The written agreement between the *Community College System of New Hampshire* and the *Contractor* setting forth the obligations of the parties as outlined in the *Contract Documents*.

Y. **Contract *Representative*.** The *Community College System of New Hampshire's* appointed representative is the CCSNH Director of Capital Planning and Development having specific authority to act on the *Community College System of New Hampshire's* behalf and shall be responsible for general supervision, control, and direction over all matters pertaining to design, construction, maintenance standards, preservation, and administration of the *Contract*. The Architect does not have such authority.

Z. **Contract Bond.** The approved form of security to the Community College System of New Hampshire (political subdivision) in compliance with RSA 447:16 executed by the *Contractor* and their *Surety* or Sureties, guaranteeing complete execution of the contract and all supplemental agreements pertaining thereto including the payment of all legal debts pertaining to the construction of the *Project*.

AA. **Contract Documents.** Collectively, the *Invitation To Bid*, *Bidding Requirements*, *Contract Bond*, *Specifications*, *Drawings*, *Addendum*, and other documents included in the *Contract*, and modifications, clarifications, authorized *Alteration Orders* and *Change Orders* issued after the execution of the *Contract*, to complete the *Project*. All documents shall be written in English.

BB. **Contract Sum.** The amount stated in the *Contract*. This sum shall be derived from the *Lump Sum Base Bid*, *Lump Sum Grand Total*, or *Negotiated Price*; modified to reflect the acceptance of any *Alternates*. The *Notice to Proceed* shall state the amount that the *Community College System of New Hampshire* is obligated to pay the *Contractor*.

CC. **Contractor.** The *Corporation*, *Partnership*, or *Proprietorship*, or any combination thereof, contracting with the Community College System of New Hampshire for performance of prescribed work.

DD. **Contractor's Request for Certificate of Full or Partial Substantial Completion.** A document prepared by the *Contractor* when the *Project* reaches *Substantial Completion*.

EE. **Contractual Liability.** Liability assumed by the *Contractor* under a *Contract*.

FF. **Corporation.** A legal entity organized under the laws of a particular jurisdiction who is legally authorized to do business in the State.

GG. **Credit.** Any Change that results in a reduction in the *Contract Sum* or *Lump Sum Grand Total* Items. All credits shall be processed by an *Alteration Order* and may include modifications to *Lump Sum Grand Total* Items.

HH. **Day.** Unless designated as a *Working Day*, or unless otherwise indicated, this term will mean a *Calendar Day*.

II. **Drawings (Plans).** The graphic and pictorial documents or reproductions thereof, which show the location, character, dimensions, and details of the prescribed work.

JJ. **Final Completion.** Term denoting that the *Work* has been completed in accordance with the terms and conditions of the *Contract Documents* and all *Punch List* items have been completed.

KK. **Final Payment.** Payment made by the *Community College System of New Hampshire* to the *Contractor*, upon *Final Completion*.

LL. **General Conditions.** The part of the *Contract Documents* establishing the rights, responsibilities and relationships of the parties.

MM. **Hazardous Material.** Shall include any material regulated by federal or state law and shall include but not limited to asbestos, toxic or hazardous waste, PCBs, combustible gases and materials, petroleum or radioactive material, or any other substances under any conditions and in such quantities as would pose a substantial danger to persons or property exposed to such substances.

NN. **Indemnification.** A contractual obligation by which one person or entity agrees to reimburse others for loss or damage arising from specified liabilities.

OO. **Invitation to Bid.** A portion of the *Bidding Documents*; the *Advertisement* for *Proposals* for *Work* or *Materials* on which *Bids* are requested. The *Advertisement* will indicate the time and place of the opening of *Proposals*, the type and location of *Work* to be performed, the character and quantity of the *Material* to be furnished and provide information on how to obtain *Drawings, Specifications* and *Proposal.*

PP. **Liability Insurance.** A contract under which an insurance company agrees to protect a person or entity against claims arising from a real or alleged failure to fulfill an obligation or duty to a third party who is a named or an incidental beneficiary.

QQ. **Lump Sum Base Bid.** One type of *Proposal* where the *Bid* is established by a single item price to perform all *Work* excluding any *Alternates* that may or may not become part of the *Contract*.

RR. **Lump Sum Grand Total.** One type of *Proposal* where the *Bid* is established as a total of various items to perform all *Work* excluding any *Alternates* that may or may not become part of the *Contract*.

SS. **Low Bid.** The *Bid* stating the lowest price proposed for performance of the *Work*, conforming to the *Bidding Documents*.

TT. **Lowest Responsible Bidder.** The *Bidder* who submits the lowest bona fide *Bid* and is considered by the Community College System of New Hampshire to be fully responsible and qualified to perform the *Work* for which the *Bid* is submitted.

UU. **Material(s).** Any substance and/or product specified for use in the construction of the *Project* and its appurtenances.

VV. **Negotiated Price.** A *Proposal* modified by the *Lowest Responsible Bidder* thru communication with the Community College System of New Hampshire in which changes are made to the *Proposal* and/or *Completion Date* as required to meet budget, funding or scheduling requirements.

WW. **Notice to Proceed.** A written notice to the *Contractor* to proceed with a portion of or all of the Contract Work; including the beginning of *Contract* time when applicable. The Notice to Proceed shall act as the final step in awarding the *Contract* or portion thereof.

XX. **Occurrence Policy.** An insurance policy that covers acts or omissions occurring during the policy term, regardless of when a claim against the insured is first asserted, even if the policy is no longer in existence.

YY. **Owner's Protective Liability Coverage.** Third-party legal liability insurance coverage protecting the *Community College System of New Hampshire* from claims arising from the construction process.

ZZ. **Partnership.** An association of two or more persons or entities to conduct a business that shares profits and losses at a certain proportion.

AAA. **Professional Engineer.** Referred to as Engineer. As defined in RSA 310-A:2, a person who by reason of advanced knowledge of mathematics and the physical sciences, acquired by professional education and practical experience, is technically and legally qualified to practice engineering, and who is licensed by or otherwise authorized by State of New Hampshire Professional Engineers Board to engage in the practice of engineering. The Engineer has no contractual agreement with the *Contractor* and therefore shall not directly interact with the *Contractor*.

BBB. **Project.** The total construction of the *Work* to be performed.

CCC. **Proposal.** A *Bidder's* offer, on *Community College System of New Hampshire* prescribed forms, to perform stated work at the quoted price(s).

DDD. **Proposal Guaranty.** The security furnished with a *Proposal*, which shall be a *Bid Bond*, certified check or cashier's check and which provide that the *Bidder* if awarded the *Contract* will execute such *Contract* in accordance with the requirements of the *Bidding Documents*.

EEE. **Proprietorship (Individual).** A form of business organization that is owned entirely by one person.

FFF. **Provide.** To furnish and install a product, materials, systems, and/or equipment, complete in place, fully tested and approved.

GGG. **Punch List.** A written document attached to the *Certificate of Substantial Completion* listing items to be completed or corrected prior to the *Community College System of New Hampshire* approval of *Final Payment.*

HHH. **Specifications.** The volume that is part of the *Contract Documents* which contain the *General Conditions*, *Supplementary General Conditions*, *Invitation to Bid*, and individual sections that consist of written requirements for material, equipment, construction systems, standards and workmanship, and other documents or reports as applicable.

III. **State.** The State of New Hampshire.

JJJ. **Subcontractor.** A *Corporation*, *Partnership*, *Proprietorship*, Joint Venture or any combination thereof, to whom the *Contractor* sublets any part of the *Contract*.

KKK. **Substantial Completion.** As determined by an inspection by the *Contract Representative* that the work or portion thereof is substantially complete, in accordance with the *Contract Documents*, such that the *Community College System of New Hampshire* may occupy or utilize the *Work* for its intended use without disruption or interference by the *Contractor* in completing or correcting any remaining unfinished or unacceptable *Work*.

LLL. **Substitution.** A *Material*, product or item of equipment in place of that specified.

MMM. **Superintendent.** The *Contractor's* authorized representative responsible for field supervision, coordination, and completion of the *Work*.

NNN. **Supplementary General Conditions.** A part of the *Contract Documents* which supplements and may also modify, change, add to or delete from provisions of the *General Conditions*.

OOO. **Surety.** A *Corporation*, *Partnership*, or *Proprietorship* other than the *Contractor*, executing a bond furnished by the *Contractor*.

PPP. **Umbrella Liability Insurance.** Insurance providing coverage in an amount above existing liability policies.

QQQ. **Unit Price.** An amount stated in a *Lump Sum Grand Total Bid* as a price per unit for an item or portion of the contract or for specific materials and/or services described in the *Contract Documents*.

RRR. **Work.** The construction and services required by the *Contract Documents* to furnish all labor, materials, equipment, and incidentals necessary to complete the duties, obligations, and requirements imposed by the *Contract*.

SSS. **Workers' Compensation Insurance.** Insurance covering the liability of an employer to employees for compensation and other benefits required by workers' compensation laws with respect to injury, sickness, disease or death arising from their employment.

TTT. **Working Day.** Any calendar day, except Saturdays, Sundays, and Contract designated legal holidays.

PART 2 CONTRACT DOCUMENTS

2.1 The Contract Documents consist of the Invitation to Bid, Contract Agreement, General Conditions, Supplementary General Conditions, Drawings and Specifications, including all Addenda issued prior to execution of the Contract, wage scales where applicable, Bonds where required, insurance certificates, other documents listed in the Agreement and Modifications issued after the execution of the Contract, Change Orders and Alteration Orders issued in accordance with Part 12 of the General Conditions.

A. Hierarchy of the Contract Documents shall be interpreted according to the following classes:

1. Community College System of New Hampshire approved modifications to the Contract Documents after execution of the Contract.
2. Addenda.
3. Supplemental General Conditions.
4. General Conditions.
5. Division 1 – General Requirements.
6. Remaining Specifications.
7. Larger Scale Drawings & Details.
8. Remaining Drawings.

2.2 A fully executed Contract shall not be in effect until the contract is approved and an issuance of the Notice to Proceed by the Community College System of New Hampshire.

2.3 This Contract is executed in a number of counterparts, each of which is an original and constitutes the entire agreement between the parties. This Contract shall be construed according to the laws of the State. No portion of this Contract shall be understood to waive the sovereign immunity of the *Community College System of New Hampshire*. This Contract shall not be amended, except as specified in Parts 13 and 20.

2.4 The Contract Documents are complementary and anything called for by one of the Contract Documents and not called for by the others shall be of like effect as if required by all.

2.5 Should the Contract Documents contain inconsistencies within a class identified in Item 2.1A, the Contractor shall provide the better quality or greater quantity of work and/or materials. The Contractor shall identify any perceived discrepancies to the Contract Representative prior to proceeding.

2.6 The Contractors and all Subcontractors shall refer to all of the Contract Documents, including those not specifically showing the work of their specialized trades, and shall perform all work reasonably inferable from them as being necessary to produce the intended results in compliance with applicable Federal, State, and Local codes.

2.7 All indications or notations which apply to one of a number of similar situations, materials or processes shall be deemed to apply to all such situations, materials or processes wherever they appear in the work, except where a contrary result is clearly indicated by the Contract Documents.

2.8 Where codes, standards, requirements, and publications of public and private bodies are referred to in the Contract Documents, such references shall be understood to be to the latest final and complete

revision at the time of receiving Bids unless specifically identified, except where otherwise indicated.

2.9 Where no explicit quality or standards for materials or workmanship is established for work, such work is to be consistent with the best quality workmanship standards of the applicable trade.

2.10 All manufactured articles, materials, and equipment shall be applied, assembled, installed, connected, erected, tested, cleaned, and conditioned in accordance with the manufacturer's written or printed directions and instructions, unless specifically indicated otherwise in the Contract Documents.

2.11 The Drawings are made to scale as identified therein, but all working dimensions shall be taken from the figured dimensions and by actual measurements at the job; in no case by scaling. The Contractor shall study and compare all of the Drawings and verify all figures before laying out or constructing work. The Contractor shall be responsible for errors in his/her work that might have been avoided thereby. Whether or not an error is believed to exist, deviation from the Drawings and the dimensions given thereon shall be made only after approval in writing from the Contract Representative.

2.12 All Drawings and Specifications and copies thereof are the property of the Community College System of New Hampshire and shall not be used by the Contractor or Subcontractor on other Projects.

PART 3 NOTICE

3.1 Any written notice by either party to the Contract shall be sufficiently given if delivered to or at the last known business address of the person, partnership or corporation constituting the other party to the Contract, or to his/her, their, or its duly authorized agent, representative, or officer, or when sent by registered mail to such last known business address. The last known business address shall be that location which is last provided in writing.

3.2 The parties shall provide their physical location/address, mailing address, telephone number, fax number, and, where available, pager number(s), email address(es), and other methods of contact for all persons associated with the Contract.

PART 4 ACCESS TO THE WORK

4.1 The Contractor shall provide for access to the work, at all times, for observation and/or inspection by the Community College System of New Hampshire, Architect, Consultant, Engineer and government officials having jurisdiction. The Contractor shall provide proper facilities for such access and inspection.

PART 5 ACCIDENT PROTECTION

5.1 It is a condition of this Contract, and shall be made a condition of each subcontract entered into pursuant to the Contract, that the Contractor, any Subcontractors, or Independent Contractors shall not require any laborer or mechanic employed in the performance of the Contract to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to the laborer's health or safety as determined by construction safety and health standards of the Occupational Safety and Health Administration, United States Department of Labor, which standards include, by reference, the established Federal Safety and Health Regulations for Construction. These standards and regulations comprise Part 1910 and Part 1926 respectively of Title 29 of the Code of Federal Regulations, as may be revised from time to time. In the event any revisions in the Code of Federal Regulations are published, such revisions will be deemed to supersede the appropriate Part 1910 and Part 1926, and be effective as of the date set forth in the revised regulation.

PART 6 HAZARDOUS MATERIALS

6.1 The Contractor shall also be aware of laws and regulations relating to hazardous materials that may be encountered during construction operations, either within project limits or at material sites off the project. The health and safety of employees, the general public, and the potential of damage to the overall environment is possible if hazardous materials are not recognized, reported, and the appropriate action taken to dispose of, remove from the site, or otherwise contain the possible contaminants.

6.2 If any abnormal condition is encountered or exposed that indicates the presence of a hazardous material or toxic waste, construction operations shall be immediately suspended in the area and the Contract Representative notified. No further work shall be conducted in the area of the contaminated material until the site has been investigated and the Community College System of New Hampshire has given approval to continue the work in the area. The Contractor shall fully cooperate with the Community College System of New Hampshire and perform any remedial work as directed. Work shall continue in other areas of the Project unless otherwise directed.

6.3 Exposure to hazardous materials may result from contact with, but not necessarily limited to, such items as drums, barrels, and other containers, waste such as cars, batteries, and building construction debris. Containers leaking unknown chemicals or liquids, abandoned cars leaking petroleum products, batteries leaking acid, construction debris which may include asbestos, or any other source of suspected hazardous material found within excavation areas or stockpiled on land within construction limits shall be referred to the Department of Environmental Services and Contract Representative so that a proper identification of the materials may be made and disposal procedures initiated as required.

6.4 Disposition of the hazardous material or toxic waste shall be made under the requirements and regulations of the Department of Environmental Services. Work required to dispose of these materials and any remedial work shall be performed under a Supplemental Agreement or Contract item, if included in the Contract.

PART 7 SUBCONTRACTS

7.1 Nothing contained in the Specifications or Drawings shall be construed as creating any contractual relationship between any Subcontractor and the Community College System of New Hampshire. The Sections of the Specifications are not intended to control the Contractor in dividing the work among Subcontractors or to limit the work performed by any trade.

7.2 The Contractor shall be as fully responsible for the acts and omissions of Subcontractors and of persons employed by them, as he/she is for the acts and omissions of persons directly employed by him/her.

7.3 The Contractor shall, without additional expense to the Community College System of New Hampshire, utilize the services of specialty Subcontractors, as required to complete the work.

7.4 The Contract Representative will not undertake efforts to settle or resolve any differences between the Contractor and Subcontractors or between Subcontractors.

7.5 The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind Subcontractors to the Contractor by the terms of the General Conditions and other Contract Documents insofar as applicable to the work of Subcontractors and to give the Contractor the same power to terminate any subcontract that the Contract Representative may exercise over the Contractor under any provisions of the Contract Documents.

PART 8 RESPONSIBILITY OF CONTRACTOR TO ACT IN EMERGENCY

8.1 In case of any emergency that threatens loss or injury of property, and/or safety of life, the Contractor shall act as the situation may warrant. He/she shall notify the Contract Representative thereof immediately thereafter. Any compensation claimed by the Contractor together with substantiating documents in regard to expense, shall be submitted to the Contract Representative and the amount of compensation shall be determined by agreement.

8.2 In the event the Community College System of New Hampshire learns of an emergency that threatens loss or injury of property, and/or safety of life, the Community College System of New Hampshire shall notify the Contractor using the contact information provided pursuant to PART 3 herein. The Community College System of New Hampshire may, but shall have no duty to take reasonable steps to mitigate the damage or loss to the Contractor. In either event, the Community College System of New Hampshire shall have no duty to undertake any specific acts and shall have no liability for actions or inactions taken absent gross negligence.

PART 9 MUTUAL RESPONSIBILITY OF CONTRACTORS

9.1 If the Contractor or any of his/her Subcontractors or employees causes loss or damage to any separate Contractor or Subcontractor on the work, the Contractor or Subcontractor agrees to settle with such separate Contractor or Subcontractor by agreement, if he/she will so settle. If such separate Contractor or Subcontractor sues the Community College System of New Hampshire because of any loss so sustained, the Contract Representative shall notify the Contractor and/or their Subcontractors, who shall indemnify and hold harmless the Community College System of New Hampshire against any expenses or judgment arising therefrom.

PART 10 PAYMENTS TO CONTRACTOR

10.1 The Community College System of New Hampshire will process payments to the Contractor each month on the basis of duly certified and approved estimates of the work performed during the preceding period. In preparing estimates, the material delivered on the site and any preparatory work done may be taken into consideration. Payments will only be approved in an amount no greater than the percentage of project completion, as determined by the Contract Representative.

10.2 At least ten (10) days before the end of the billing period, the Contractor shall submit to the Contract Representative, an itemized Requisition for Payment, supported by such data substantiating the Contractor's right to payment as the Contract Representative may require. If payment is to be made for materials or equipment not incorporated in the work, but delivered and suitably stored at the site, or at some other location agreed upon in writing, such payment shall be conditional upon inspection and/or observation by the Community College System of New Hampshire and submission by the Contractor of bills of sale or such other procedure satisfactory to the Contract Representative to establish the Community College System of New Hampshire's title to such materials or equipment or otherwise protect the Community College System of New Hampshire's interest including applicable insurance and transportation to the site.

10.3 Immediately upon receipt of the Monthly Requisition for Payment, Contractor shall post same at the Contractor’s Field Office or project site in a location where Subcontractors have clear access.

10.4 Retainage:

A. Contract Payment Withheld: A 5% retainage shall be withheld from each Progress Payment until issuance of a Certificate of Substantial Completion. The balance remaining after the specified percentage has been retained, less all previous payments, will be certified for payment on each partial estimate.

****** [OR] ******

B. Irrevocable Letter of Credit: In lieu of retainage for Projects amounting to Five Hundred Thousand ($500,000.00) or more, the Contractor, with the approval of the Community College System of New Hampshire, may provide the Community College System of New Hampshire with a Letter of Credit in an amount equal to five percent (5%) of the total adjusted Contract amount at the time of such request. Any such Letter of Credit must be irrevocable (that is, it may be modified or revoked only with the consent of the Community College System of New Hampshire). It shall have a termination date at least one hundred twenty (120) days after the completion date specified in the underlying Contract, or as may be altered in accordance with the Contract Documents, whichever is later. The Letter of Credit shall authorize the Community College System of New Hampshire to require the issuing financial institution to deposit with the Community College System of New Hampshire an amount equal to the retainage that would have been deducted from payment to the Contractor, as specified in 10.4.A.1. The Community College System of New Hampshire may utilize the amount so deposited in the same manner as retainage.

10.5 Retainage will be released at Final Payment.

A. After the Certificate of Substantial Completion has been issued, upon written application by the Contractor and with the approval of the Surety, the Contract Representative may release a portion of the retained amount.

10.6 Payment for Material On Hand:

A. Partial payments are made for materials to be incorporated in the Work, provided the materials meet the requirements of the Contract and are delivered on, or in the vicinity of, the Project site and stored in acceptable places. Partial payments will not exceed 90 percent of the Contract unit price for the item or the amount supported by copies of paid invoices, freight bills, or other supporting documents required by the Community College System of New Hampshire. The quantity paid will not exceed the corresponding quantity estimate in the Contract. No partial payment will be made on living or perishable materials until incorporated in the Work.

B. When material payments exceed $100,000 or 10 percent (10%) of the total contract amount, whichever is less, notarized copies of paid invoices or copies of canceled checks for all such materials must be submitted to the Contract Representative within 45 days of the end date of the estimate on which the material allowance was paid. Failure to provide such documentation will result in the deduction of such material allowance from future estimates until documentation is provided.

C. All material and work covered by partial payments made shall thereupon become the sole property of the Community College System of New Hampshire, but this provision shall not be construed as relieving the Contractor of the sole responsibility of all materials and work upon which payments have been made or the restoration of any damaged work or as a waiver of the right of the Community College System of New Hampshire to require the fulfillment of all the terms of the Contract.

10.7 Payment for Material Not on Hand:

A. Upon receipt of a written request by the Contractor, partial payment may be made for acceptable, fully-fabricated, nonperishable materials not delivered that are unique to the Project provided the materials meet the requirements of the Contract and are stored in excess of 30 days at locations approved by the Community College System of New Hampshire, and provided all required certificates of compliance, mill test reports, shop inspector's acceptance and any other required materials certification have been furnished. Materials shall be identifiable and accessible for inspection. Storage areas shall provide adequate protection so that such materials will meet the Contract requirements upon delivery to the site.

B. Partial payment will be based on the actual cost to the Contractor as indicated on invoices furnished to the Contract Representative. When material payments exceed $100,000 or 10 percent of the total contract amount, whichever is less, notarized copies of paid invoices or copies of canceled checks for all such materials must be submitted to the Contract Representative within 45 days of the end date of the estimate on which the material allowance was paid. Failure to provide such documentation will result in the deduction of such material allowance from future estimates until documentation is provided. Payment shall not exceed 90 percent of the bid price. NO payment will be made on materials for any item in the contract whose total dollar value is less than $5,000. Approval of partial payment will not constitute final acceptance of the materials for use in completing items of work.

10.8 Release of Claims:

A. Neither the final payment nor any part of the retained percentage shall become due until the Contractor shall deliver a complete release of all claims arising under and by virtue of this Contract, including claims for all Subcontractors and suppliers of either materials or labor, plus a release of the Contract Bond and a statement that all Subcontractors and suppliers have been paid. The Chancellor, may pay any and all such claims, in whole or in part, and deduct the amount or amounts so paid from any partial or final payment.

10.9 Final Payment:

A. Application for Final Payment received from the Contractor will be processed for payment not less than 90 days after project acceptance and final completion unless accompanied by a release of the Contract Bond. This payment shall be the amount of the Contract, amended by approved alteration orders, less previous payments minus liquidated damages, additional penalties or holdbacks. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

10.10 Acceptance of Final Payment Constitutes Release:

A. The acceptance of the Final Payment by the Contractor shall be and shall operate as a release to the Contractor of all claims and of all liability to the Community College System of New Hampshire for all things done or furnished in connection with this work. No payment, however, final or otherwise, shall operate to release the Contractor and its Sureties from any obligations under this Contract or the Contract Bond. Acceptance of Final Payment shall not impact any warrantees provided by the Contractor with respect to this project.

PART 11 CONTRACTOR'S TITLE TO MATERIALS

11.1 No materials or supplies for the work shall be purchased by the Contractor or any Subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that good title has been obtained for all materials and supplies for which partial payment has been accepted. If any claim is made with respect to materials provided by the Contractor, Subcontractors, or Independent Contractors, the Contractor shall defend any such claim and shall pay any judgment or settlement thereon.

PART 12 CHANGES IN WORK

12.1 No charge for any extra work or material will be allowed without a fully executed Alteration Order. (Refer to Specification Section 01200-Price and Payment Procedures)

12.2 The Chancellor may at any time, by a written order, and without notice to the Sureties, make changes in the Drawings and Specifications and Completion Date of the Contract and within the general scope thereof.

12.3 If any part of the work as installed be at variance with the Contract requirements, the Contract Representative may allow all or any part of such work to remain in place, if found to be in the best interest of the Community College System of New Hampshire, subject to proper adjustment in the

Contract Price. Acceptance of installed work in one instance or in any instance does not constitute a waiver of Specifications, General Conditions or contract requirements.

12.4 The Contractor shall hold the Community College System of New Hampshire and its officers, agents, servants, and employees harmless from liability of any nature including cost and expenses, for or on account of any patented or unpatented invention, process, article or applicable items manufactured or used in the performance of the Contract, including its use, unless otherwise specifically stipulated in the Contract Documents.

PART 13 ASSIGNMENTS

13.1 The Contractor shall not assign the whole or any part of this Contract or any monies due or to become due, hereunder, without the written consent of the Chancellor and of all Sureties executing any Bonds on behalf of the Contractor if in connection with said Contract.

PART 14 SUPERINTENDENCE BY CONTRACTOR

14.1 The Contractor shall have on the project site, at all times when work is being performed, a competent English-speaking Superintendent capable of reading and thoroughly understanding the contract documents and thoroughly experienced in the type of work being performed, satisfactory to the Community College System of New Hampshire. The Contractor shall not change superintendents without permission from the Contract Representative and shall submit a request in writing with justification for such a change.

A. The Superintendent shall be responsible for verifying that all materials, installation, coordination, and workmanship are in conformance with the contract documents.

B. Unless the Contract Representative has granted prior written approval, the Superintendent shall not, himself, engage in "hands-on" construction work.

C. In the event the Superintendent fails or refuses to perform functions mentioned above as determined by the Contract Representative, the Contractor agrees to a stipulated penalty of $1,200.00 per day, in addition to any liquidated damages provided hereunder.

Revised 02-25-2007

PART 15 FAILURE TO COMPLETE WORK ON TIME

15.1 If the Contractor fails to complete all of the work or sections of the Project, if sections are indicated, within the time specified in the Contract or within any additional time allowed, for each working day the Liquidated Damages identified in 16.3 will be deducted from any money due the Contractor. This deduction will be made, not as a penalty, but as fixed, agreed liquidated damages for inconvenience to the Community College System of New Hampshire and for reimbursing the Community College System of New Hampshire the cost of the Administration of the Contract, including personnel, time, engineering and inspection. Should the amount of money otherwise due the Contractor be less than the amount of such liquidated damages, the Contractor and its Surety shall be liable to the Community College System of New Hampshire for such deficiency.

15.2 If the Community College System of New Hampshire permits the Contractor to continue and finish the work after the time fixed for its completion, it shall in no way operate as a waiver on the part of the Community College System of New Hampshire of any of its rights under the Contract. When the final acceptance has been duly made by the Contract Representative, any liquidated damage charges shall end.

15.3 The fixed, agreed, liquidated damages shall be assessed in accordance with the following schedule:

Original Contract Amount, Plus Any Extras, Alteration Orders, and Alternates		Amount of Liquidated Damages Per Working Day
From More Than:	To and Including:	
$0	$25,000.00	$200.00
$25,000.00	$50,000.00	$250.00
$50,000.00	$100,000.00	$400.00
$100,000.00	$500,000.00	$450.00
$500,000.00	$1,000,000.00	$800.00
$1,000,000.00	$2,000,000.00	$1,200.00
$2,000,000.00	$5,000,000.00	$1,600.00
$5,000,000.00	$10,000,000.00	$2,000.00
$10,000,000.00	and above	$2,400.00

PART 16 SUBSTANTIAL COMPLETION AND FINAL INSPECTION

Revised 12/08/04

16.1 The Contractor shall provide a signed Substantial Completion Application to the Contract Representative when the work is believed to be substantially complete, in accordance with specification section 01700, accompanied by a list of items, referred to as the Punch List, to be completed or corrected. The failure to include any items of such list does not alter the responsibility of the Contractor to complete all work in accordance with the Contract Documents. On the basis of an inspection by the Contract Representative who determines that the work is substantially complete, a Certificate of Substantial Completion will be issued.

A. The Certificate of Substantial Completion shall:

1. Include any modifications to the Punch List or value as determined by the Contract Representative.
2. Establish the Date of Substantial Completion.
   a. Warranties required by the Contract Documents shall commence on the Date of Substantial Completion unless otherwise provided in the Certificate of Substantial Completion.
3. Identify the responsibilities of the Community College System of New Hampshire and the Contractor for security, maintenance, heat, utilities, and damage to the work and insurance.
4. Fix the time limit within which the Contractor shall complete the items listed herein.

16.2 Partial Occupancy or Use: The Community College System of New Hampshire may take occupancy or use of completed or partially completed portions of the work upon written agreement between the Chancellor and the Contractor. Said partial occupancy or use shall have the approval of the insurer and Code enforcement authorities having jurisdiction. Said partial occupancy or use, (whether substantial completion has been obtained or not) provided the Contract Representative and Contractor have agreed upon written terms detailing each of the entities responsibilities in their entirety, may be exercised under these General Conditions.

A. A Written agreement shall stipulate the time period for completion of all Work and the commencement date for all applicable contract warranties. Said written agreement shall be preceded by a Contractor generated listing of all incomplete Work, meeting with the approval of the Contract Representative, before partial occupancy or use is taken by the Community College System of New Hampshire with prior approval of the Division.

16.3 If the Contractor fails to complete the items on the "punch list," by the date specified on the Substantial Completion Certificate, then in addition to the corrective measures listed in the Certificate of Substantial Completion, the Community College System of New Hampshire may use the monies still due the Contractor to have such items completed and the Contractor shall lose any claim to the monies so used. The Surety may be notified of any delay or failure to complete the work.

16.4 Upon written notice that the work is ready for final inspection and acceptance, the Contract Representative shall promptly make such inspection, to determine the work is acceptable under the Contract Documents and the Contract fully performed. The Contractor shall submit a request for payment, specifically identifying Final Payment. The Contractor shall provide all certificates and reports, as required, throughout the contract and shall coordinate their preparation and submission

prior to request for final payment. Failure to submit such certificates and reports shall be considered default of contract.

PART 17 DEFAULT AND TERMINATION OF CONTRACT

17.1 If the Contractor:

A. Fails to begin work under Contract within the time identified in specification section 01100.

B. Fails to perform the work with sufficient workers and equipment, or with sufficient materials to assume prompt completion of said work, or

C. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

D. Discontinues the prosecution of the work, or

E. Fails to resume work, which has been discontinued, within a reasonable time after notice to do so, or

F. Becomes insolvent or has declared bankruptcy, or commits any act of bankruptcy or insolvency, or

G. Makes an assignment for the benefit of creditors, or

H. For any other causes whatsoever, fails to carry on the work in an acceptable manner.

17.2 The Chancellor will give notice, in writing, to the Contractor and his Surety for such delay, neglect, and default for any item identified above.

A. Upon receipt of Notification of Default and the Contractor or Surety does not proceed in accordance with said Notification, then the Chancellor will Terminate the Contract. Upon which, the Chancellor shall have full power and authority, without violating the Contract, to assume the prosecution of the work. The Chancellor may enter into one or more agreements for the completion of said Contract according to the terms and conditions thereof, or use such other methods as will be required for the completion of said Contract in an acceptable manner.

1. All extra costs and charges incurred by the Community College System of New Hampshire as a result of such delay, neglect or default, together with the cost of completing the work under the Contract will be deducted from any monies due or which may become due said Contractor. If such expenses exceed the sum that would have been payable under the Contract, then the Contractor and the Surety shall be liable and shall pay to the Community College System of New Hampshire, the amount of such excess.

PART 18 TERMINATION OF CONTRACT WITHOUT FAULT

18.1 Except in cases controlled by the preceding section, the Chancellor, for any cause, including, but not limited to an order of any Federal authority or petition of the Contractor due to circumstances beyond its control may, by written notice to the Contractor and the Surety, with the concurrence of the Governor and Council, terminate the Contract or any portion thereof subject to the Condition(s) A, B, C, and D provided below.

18.2 Notwithstanding anything to the contrary contained in these conditions, it is understood and agreed by the parties hereto that all obligations of the Community College System of New Hampshire hereunder, including the continuance of payments, are contingent upon the availability and continued appropriation of State and/or Federal Funds, and in no event shall the Community College System of New Hampshire be liable for any payments hereunder in excess of such available or appropriated funds. In the event of a reduction, termination or failure to appropriate any or all such available funds or appropriations or a reduction of expenditures of Community College System of New Hampshire, the Chancellor may, by written notice to the Contractor and Surety, immediately terminate this Contract in whole or in part in accordance with the following conditions:

A. When a Contract, or portion thereof, is terminated before completion of all items of work in the Contract, payment will be made for the actual items of work completed. Payment of items of work not completed at time of termination shall be the greater of the following amounts:
   1. A percentage of the Contract unit price, which percentage shall be the percentage of completion of the particular item at time of termination.
   2. Such amount as shall be mutually agreed upon by the parties. No claim for loss of anticipated profits on items or units of work not completed will be allowed.

B. Reimbursement for organization of the work and mobilization, when not otherwise included in the Contract, shall be made where the volume of work completed is too small to compensate the Contractor for these expenses under the Contract; the intent being that an equitable settlement be made with the Contractor.

C. Acceptable materials, obtained or ordered by the Contractor for the work, and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor based upon the delivered cost of the materials at such points of delivery as may be designated by the Contract Representative. The Contractor shall do everything possible to cancel unfilled orders.

D. Termination of a Contract, or a portion thereof, shall not relieve the Contractor of its responsibilities for the work completed nor shall it relieve the Surety of its obligations for and concerning any claims arising out of the work performed.

PART 19 ASSIGNMENT PROVISION

19.1 The Contractor hereby agrees that it will assign to the Community College System of New Hampshire, all causes of action that it may acquire under the anti-trust laws of New Hampshire and the United States as a result of conspiracies, combinations of contracts in restraint of trade which affect the price of goods or services obtained by the Community College System of New Hampshire under this Contract, if so requested by the Community College System of New Hampshire.

END OF SECTION

SECTION 01100

SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Contract description.

B. Work by College.

C. College supplied products.

D. Contractor's use of site.

E. Work sequence.

F. College occupancy.

G. Specification Conventions.

1.2 CONTRACT DESCRIPTION

A. Description: This project consists of Mechanical Renovations, Sweeney Hall. Remove the existing glycol//water ventilation air preheat system that was installed in 1983. Remove piping, ductwork, HVAC equipment, Plumbing, Specialties and incidentals as required.

Provide all items, articles, materials, operations or methods listed, mentioned, scheduled on the drawings and/or specified herein including all labor, materials, equipment and incidentals necessary and required for project completion. Including but not limited to: Mechanical Equipment (Coils, Fans, Heat Exchanger Core, etc.; Sleeves and Flashings; Testing and Balancing; Pipe and Pipe Fittings; Equipment Supports; Valves and Cocks; Pipe Insulation; Duct Insulation; Ductwork; ATC

B. The Project will include but not be limited to the Disciplines of: mechanical work, and electrical work.

C. Perform Work of Contract under stipulated lump sum grand total contract with the College in accordance with Conditions of Contract.

D. The Contractor shall, except as otherwise specifically stated in the Contract Documents, provide and pay for all materials, labor, tools, equipment, water, heat, fuel, light, power, transportation, superintendence, temporary construction of every nature, and all other

services and facilities of every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

1.3 WORK BY COLLEGE

1. NONE

1.4 COLLEGE SUPPLIED PRODUCTS

1. NONE

1.5 CONTRACTOR'S USE OF SITE [AND PREMISES]

A. Limit use of site and premises to allow:
   1. College occupancy.
   2. Work by Others and Work by College.

B. Access to Site: Limited to Normal working hours.

C. Construction Operations: Limited to areas as designated in the plans and specifications.

D. Time Restrictions for Performing Work: Normal working hours of [7:30] am to [4:30] pm, Monday through Friday with the following restrictions:
   1. No access during the following observed holidays:
      a. New Year’s Day.
      b. Martin Luther King Jr. Civil Rights Day.
      c. Washington’s Birthday.
      d. Memorial Day.
      e. Independence Day.
      f. Labor Day.
      g. Veterans’ Day.
      h. Thanksgiving Day.
      i. Day after Thanksgiving.
      j. Christmas Day.
   2. Access for work outside of normal working hours shall be requested in writing to the Contract Representative, at least one week in advance. The Contract Representative may accept or reject the request.

E. Utility Outages and Shutdown: Shall be coordinated with the building users to minimize disruption of services, and may require work to take place outside of normal working hours with request and approval.

1.6 WORK SEQUENCE

A. Work shall commence within 7, days after issuance of Notice to Proceed. Failure to comply shall constitute Default of Contract.

B. Construct Work to accommodate College's occupancy requirements during construction period, coordinate construction schedule and operations with CCSNH Contract Administrator:

1.7 COLLEGE OCCUPANCY

A. The College intends to occupy the campus during the Project. The Contractor's guarantee of work identified in Section 1700 shall not commence until the Contractor is granted a Certificate of Substantial Completion.

B. Cooperate with College to minimize conflict, and to facilitate College's operations.

C. Schedule the Work to accommodate College occupancy.

D. Partial Occupancy. The College will be permitted to partially occupy the premises as phases of the project are completed. Warranties for items contained within the areas subject to partial occupancy shall commence upon the College's use of those premises identified in the Partial Occupancy. Warranties on systems extending beyond the area subject to the Partial Occupancy shall not commence until all areas utilizing those system(s) are complete and fully functional.

1.9 SPECIFICATION CONVENTIONS

E. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

0SECTION 01200

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Allowances (intentionally omitted).

B. Testing and inspection allowances. (intentionally omitted)

C. Schedule of values.

D. Requisition for payment.

E. Change procedures.

F. Defect assessment.

G. Unit prices.

H. Alternates (intentionally omitted).

1.2 ALLOWANCES (intentionally omitted).

1.3 TESTING AND INSPECTION ALLOWANCES (intentionally omitted)

1.4 SCHEDULE OF VALUES

A. Submit printed schedule on AIA Form G703 - Continuation Sheet for G702. Contractor's standard form or electronic media printout will be considered.

B. Submit Schedule of Values in duplicate within 15 days after date of issuance of Notice to Proceed. Failure to submit within specified time period will constitute Default of Contract.

C. Format: Utilize Table of Contents of these Specifications. Identify each line item with number and title of major specification Section. Identify bonds and insurance, allowances, and alternates

D. Include a separate line item for the amount of each Allowance and Alternates specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by unit cost to achieve total for each item.

E. Revise schedule to list approved Change Orders, with each Requisitions For Payment.

1.5 REQUISITION FOR PAYMENT

A. Submit one copy of each application.

B. Content and Format: Items on the Requisition for Payment shall be consistent with the items on the Proposal Form. Utilize the Schedule of Values as documentation for payment items.

C. Submit updated construction schedule with each Requisition for Payment.

D. Payment Period: Submit at intervals stipulated in Document 00708 General Conditions. CCSNH

E. Substantiating Data: When the Contract Representative requires substantiating information, submit data justifying dollar amounts in question.

F. Include the following with Requisition for Payment, payment will not be processed if any items are missing or incomplete:

1. Record documents as specified in Section 01700, for review by the Contract Representative, which will be returned to Contractor.
2. Affidavits attesting to off-site stored products.
3. Construction progress schedules, revised and current as specified in Section 01330.

1.6 CHANGE PROCEDURES

A. Submittals: Submit name of individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.

B. The Contract Representative will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time, or that may be necessary to carry out the work included in the Contract, by issuing supplemental instructions.

C. The Contract Representative may issue a Proposal Request including a detailed description of proposed change(s) with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change. The Contractor will prepare and submit estimate within ten days.

D. Contractor may propose changes by submitting a request for change(s) to the Contract Representative, describing proposed change and its full effect on the Work. Each request shall be a separate item and sequentially numbered. Include a statement describing reason for the change, and effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on Work by separate or other Contractors.

E. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for Change Order as approved by the Contract

Representative. Submit the breakdown of the following items on a Stipulated Sum/Price Change Order Form for review and approval by the Contract Representative:

1. The Contractor shall include the following indirect costs for work performed by the General Contractor as part the Contractors' price:
   a. Worker's Compensation and Employee Liability.
   b. Unemployment and Social Security Taxes.
2. In addition to the above indirect costs the General Contractor shall be allowed the following markups:
   a. Ten percent (10%). Said ten percent (10%) shall be all inclusive for overhead, supervision, and profit for Work performed by the General Contractor
   b. Five percent (5%) on that part of work performed by Subcontractors.
   c. The same percentages above shall apply to Subcontractors.
3. On any change that involves a net credit to the State, no allowance for overhead, supervision and profit shall be figured.
4. Extension of Contract Time: State any requests for extension of Contract Time with justification for such a request.

F. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under Construction Change Directive. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.

G. Construction Change Directive: The Contract Representative may issue directive, signed by the Bureau Administrator or Assistant Administrator, instructing the Contractor to proceed with change in the Work, for subsequent inclusion in a Time and Material Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change. Failure to comply will result in Default of Contract.

H. Time and Material Change Order: Submit itemized account and supporting data within 10 days of completion of change. The Contract Representative will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.

1. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
2. Document each quotation for change in cost or time with sufficient data to allow evaluation of quotation. If acceptable, a Change Order for a Not to Exceed Amount will be prepared.
3. The Contractor as payment in full, including superintendence and overhead, shall accept the compensation herein provided and profit, for extra work performed. For all such work, the Contractor shall furnish certified copies of the payrolls on forms provided for that purpose, invoices of all materials, and such other information as may be required by the Contract Representative. Submit the breakdown of items on a Bureau Time and Material Change Order Form for review and approval by the Contract Representative:
   a. Labor (Actual wage + 40%): The Construction Superintendent is responsible for logging the time for each individual. For all laborers and

foremen engaged on the specific operation and entered directly on the Contractor's payroll, the Contractor will receive the actual rate of wage for each and every hour said laborers and Foremen are actually engaged in such work to which will be added an amount equal to forty percent (40%) of the sum thereof, which percentage shall include the cost percentages of the following items as applied to the labor cost involved:

1) Contract Bond Premium.
2) Public Liability Insurance.
3) Worker's Compensation Insurance.
4) Federal Social Security.
5) Unemployment Compensation Taxes

b. Materials (Actual Cost + 10%): For all materials entering permanently into the work plus freight charges thereon, and for all labor not entered directly on his payroll, the Contractor will receive the actual cost, as shown by original receipted bills forwarded to the Contract Representative, to which cost will be added an amount equal to ten percent (10%) of the sum thereof. Bills presented by the Contractor for material taken back from his stock will be subject to the ten percent (10%) allowance if approved by the Contract Representative.

c. Equipment (Reasonable Rental Charge + 0%): For any trucks, machinery or special equipment, other than small tools, the Contractor will receive a reasonable rental charge to which sum no percentage will be added. This rental charge shall be agreed upon in writing before the work is begun and shall include an operator and all fuel, lubricants, and the upkeep of the equipment.

4. In addition to the above costs the General Contractor shall be allowed the following markups:
   a. Ten percent (10%). Said ten percent (10%) shall be all inclusive for overhead, supervision, and profit for Work performed by the General Contractor
   b. Five percent (5%) on that part of work performed by Subcontractors.
   c. The same percentages above shall apply to Subcontractors.
5. Extension of Contract Time: State any requests for extension of Contract Time with justification for such a request.

I. Any Changes that result in a credit to any portion of the contract and/or a change in the Contract Time must be processed as an Change Order except as provided for in Item 1.2E.

J. Execution of Change Orders: CCSNH Contract Representative will issue Change Orders per the following procedures.
1. The Contract Representative reviews cost for Change in Work. If needed the Contract Representative will request additional items, back-up information, and request any possible changes or clarifications.
2. Contract Representative will prepare a Change Order.
3. Contract Representative will issue the Change Order to the Contractor for review and signature.
4. Contractor submits signed Change Order to the Contract Representative.

5. The Contract Representative completes the Change Order with the signature of the College Representative
6. A fully signed and executed Change Order is issued to Contract Representative, Clerk of the Works, and Contractor.

K. Execution of Change Orders: The Contractor is responsible for preparing and updating a spreadsheet log itemizing all Proposed Changes. A separate spreadsheet shall be completed for each Allowance Item. The spreadsheet shall include columns for Proposed Change Number, Description, Amount of Change, (or initial order of magnitude), Status, and Approved Amounts. In addition, a current balance remaining shall be included. Change Orders will be processed per the following procedures:
1. The Contract Representative reviews cost for Change in Work with the College and Consultant(s). If needed the Contract Representative will request additional items, back-up information, and request any possible changes or clarifications.
2. Contract Representative and College Representative signs Change Order.
3. Contractor can proceed with Change Order Work with direction from the Contract Representative.
4. Fully signed and executed Change Order is issued to the Contract Representative, Clerk of the Works, and Contractor.

L. Correlation Of Contractor Submittals:
1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
3. Promptly enter changes in Project Record Documents.

1.7 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Contract Representative, it is not practical to remove and replace the Work, the Contract Representative will direct appropriate remedy or adjust payment.

C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of the Contract Representative.

D. Defective Work will be repaired to instructions of and acceptance by the Contract Representative, and unit sum/price will be adjusted to new sum/price at discretion of the Contract Representative.

E. Authority of the Contract Representative to assess defects and identify payment adjustments, is final.

F. Non-Payment For Rejected Products: Payment will not be made for rejected products for any of the following:
1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.

3. Products not completely unloaded from transporting vehicle.
4. Products placed beyond lines and levels of required Work.
5. Products remaining on hand after completion of the Work.
6. Loading, hauling, and disposing of rejected products.

1.8 UNIT PRICES

A. NONE

1.9 ALTERNATES (intentionally omitted)

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01300

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Coordination and project conditions.

B. Permits and fees.

C. Field engineering.

D. Preconstruction meeting.

E. Site mobilization meeting.

F. Progress meetings.

G. Pre-installation meetings.

H. Cutting and patching.

I. Notification of Subcontractors and Workmen's Compensation Insurance (SB 78)

J. Special procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of various sections of the Specifications to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. The Contractor shall comply with the "Underground Utility Damage Prevention System" by notification to DIG-SAFE SYSTEM of intent to excavate near or around any underground utility installations in public ways. The Contractor shall call 1-800/225-4977 at least seventy-two (72) hours in advance of starting any excavation. Saturday, Sundays, and legal holidays are not included in the computation of the required seventy-two (72) hour notice.

C. Prior to any Work, the Contractor shall hire an independent company to locate utilities potentially affected by the Work and as shown and/or identified in the Contract Documents. All utilities shall be identified by the Contractor on the Record Drawings.

D. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.

E. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.

G. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion [and for portions of Work designated for State's [partial] occupancy].

H. After State occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of State's activities.

1.3 PERMITS AND FEES

A. The CCSNH shall obtain and pay for all permits, and impact fees as may be required by law for construction of CCSNH's facility. The Contractor shall pay for all fees and charges, and use of the property other than the site of the work for storage of materials or other purposes.

B. The Contractor shall pay all applicable Federal, State, and Local sales and other taxes, except taxes and assessments on the real property comprising the site of the Project.

1.4 FIELD ENGINEERING (not used)

1.5 PRECONSTRUCTION MEETING

A. The Contract Representative will schedule meeting at the Project site prior to Contractor occupancy.

B. Attendance required (unless otherwise waived): Contract Representative, Clerk of the Works, Contractor, Contractor's Superintendent, and major Subcontractors.

C. Potential Agenda Topics:
1. Distribution of Contract Documents.
2. Submission of list of Subcontractors, insurance carriers, subcontracting relationship, list of products, schedule of values, and progress schedule.
3. Designation of personnel representing parties in Contract.
4. Use of premises by CCSNH and Contractor.
5. College's requirements and partial occupancy.
6. Construction facilities and controls provided by CCSNH.
7. Temporary utilities provided by CCSNH
8. Security and housekeeping procedures.
9. Schedules.
10. Application for payment procedures.
11. Procedures for maintaining record documents.

12. Requirements for start-up of equipment.
13. Inspection and acceptance of equipment put into service during construction period.

D. Contract Representative shall record minutes and distribute copies within two days after meeting to participants, with one copy to each person in attendance and one to those affected by decisions made.

1.6 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at weekly intervals.

B. Attendance required (unless otherwise waived): Contract Representative, Clerk of the Works, Contractor, Contractor's Superintendent, and major Subcontractors.

C. Potential Agenda Topics:
1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems impeding planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to Work.

D. Contract Representative shall record minutes and distribute copies within two days after meeting to participants, with one copy to each person in attendance and one to those affected by decisions made.

1.7 PRE-INSTALLATION MEETING(S)

A. When required in individual specification sections, convene pre-installation meetings at Project site prior to commencing work of specific section.

B. Require attendance of parties directly affecting, or affected by, Work of specific section.

C. Notify the Contract Representative seven days in advance of meeting date.

D. Contractor shall prepare agenda and preside at meeting:
1. Review conditions of installation, preparation and installation procedures.
2. Review coordination with related work.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 CUTTING AND PATCHING

A. Employ skilled and experienced installer to perform cutting and patching.

B. Submit written request in advance of cutting or altering elements affecting:
1. Structural integrity of element.
2. Integrity of weather-exposed or moisture-resistant elements.
3. Efficiency, maintenance, or safety of element.
4. Visual qualities of sight exposed elements.
5. Work of CCSNH or separate contractor.

C. Execute cutting, fitting, and patching [including excavation and fill,] to complete Work, and to:
1. Fit the several parts together, to integrate with other Work.
2. Uncover Work to install or correct ill-timed Work.
3. Remove and replace defective and non-conforming Work.
4. Remove samples of installed Work for testing.
5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.

E. Cut masonry and concrete materials using masonry saw or core drill.

F. Restore Work with new products in accordance with requirements of Contract Documents.

G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. Maintain integrity of wall, ceiling, roof, or floor construction; completely seal voids.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with material in accordance with design and code requirements, to full thickness of penetrated element.

J. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.

K. Identify hazardous substances or conditions exposed during the Work to the Contract Representative for decision or remedy.

3.2 SPECIAL PROCEDURES

A. Materials: As specified in product sections; match existing with new products [and salvaged products] for patching and extending work.

B. Employ skilled and experienced installer to perform alteration work.

C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.

D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

E. Remove debris and abandoned items from area and from concealed spaces.

F. Prepare surface and remove surface finishes to permit installation of new work and finishes.

G. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.

H. Remove, cut, and patch Work in manner to minimize damage and to permit restoring products and finishes to original condition.

I. Refinish existing visible surfaces to remain in renovated rooms and spaces, to original condition for each material, with neat transition to adjacent finishes.

J. Where new Work abuts or aligns with existing, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.

K. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Contract Representative for review.

L. Where change of plane of 1/inch or more occurs, submit recommendation for providing smooth transition to Contract Representative for review.

M. Trim existing doors to clear new floor finish. Refinish trim to original condition.

N. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.

O. Finish surfaces as specified in individual product sections.

END OF SECTION

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Submittal procedures.

B. Construction progress schedules.

C. Subcontractor list.

D. Proposed products list.

E. Product data.

F. Shop drawings.

G. Samples.

H. Design data.

I. Test reports.

J. Certificates.

K. Manufacturer's instructions.

L. Manufacturer's field reports.

M. Erection drawings.

N. Construction photographs.

1.2 SUBMITTAL PROCEDURES

A. Transmit each submittal with CCSNH accepted form.

B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.

C. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.

D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents. Incomplete items or items submitted without the Contractor's signed stamp of approval thereon will be returned rejected.

E. Schedule submittals to expedite Project. Coordinate submission of related items. Deliver to:

Contract Representative
Matthew Moore
memoore@ccsnh.edu
Director of Capital Projects & Planning
Community College System of New Hampshire
26 College Drive
Concord, NH 03301

F. For each submittal for review, allow 14 days excluding delivery time to and from Contract Representative.

1. All shop drawings to be returned to Contractor from the Contract Representative. Direct return of shop drawings from Architect or Engineer to Contractor is not permitted.

G. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.

H. Allow space on submittals for Contractor and Architect or Engineer review stamps.

I. When revised for resubmission, identify changes made since previous submission.

J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.

K. Submittals not requested will not be recognized or processed.

L. Work shall not begin until [All] submittal items have been approved and returned to General Contractor by the Contract Representative.

1.3 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial schedules at PreConstruction Meeting.

B. Submit revised Progress Schedules with each Application for Payment.

C. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.

D. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

E. Submit horizontal bar chart with separate line for each major portion of Work or operation\ and section of Work, identifying first work day of each week.

F. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.

G. Indicate estimated percentage of completion for each item of Work at each submission.

H. Submit separate schedule of submittal dates for shop drawings, product data, and samples, including CCSNH furnished products and dates reviewed submittals will be required from Contract Representative. Indicate decision dates for selection of finishes. Selection of finishes cannot occur until ALL finish items are submitted and products are approved.

I. Indicate delivery dates for furnished products.

J. Revisions To Schedules:
   1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
   2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
   3. Prepare narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect including effect of changes on schedules of separate contractors.

1.4 SUBCONTRACTOR LIST

A. Submit list, at the PreConstruction Meeting, of subcontractors setting forth in detail the work for which they will be responsible. In addition, the General Contractor shall identify what work will be performed with the Bidder's own forces.

B. Provide Subcontractor and Insurance information as required under SB 78.
   1. Subcontractor list is to include subcontracting relationship and the carrier of Workmen Compensation Insurance for all subcontractors, all tiers.
   2. Proof of Insurance is to be provided within 36 hours of request.
   3. Changes and additional to Subcontractor and Insurance is to be provided to the CCSNH within 36 hours of occurrence.
   4. The CCSNH will post this information in a publicly accessible website for the duration of the contract.

1.5 PRODUCT DATA

A. Product Data: Submit for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

B. Submit electronic copies to the Contract Representative. The copy for the CCSNH is separate from the copy the Contractor to provide as part of close out procedures.

C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01700.

1.6 SHOP DRAWINGS

A. Shop Drawings: Submit for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Submit an electronic copy to the Contract Representative. The copy for the CCSNH is separate from the copy the Contractor to provide as part of close out procedures.

D. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01700.

1.7 SAMPLES

A. Samples: Submit for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

B. Samples For Selection as Specified in Product Sections:
   1. Submit to Contract Representative for aesthetic, color, or finish selection.
   2. Submit samples of finishes from full range of manufacturers' standard colors, in custom colors selected, textures, and patterns for Contract Representative and System approval.

C. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

D. Include identification on each sample, with full Project information.

E. Submit number of samples specified in individual specification sections; Contract Representative will retain one sample and Architect or Engineer will retain one sample.

F. Reviewed samples which may be used in the Work are indicated in individual specification sections.

G. Samples will not be used for testing purposes unless specifically stated in specification section.

H. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01700.

1.8 DESIGN DATA

A. Submit for Contract Representative's knowledge.

B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.9 TEST REPORTS

A. Submit for Contract Representative's knowledge.

B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.10 CERTIFICATES

A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor, to Contract Representative in quantities specified for Product Data.

B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or Product, but must be acceptable to the Contract Representative.

1.11 MANUFACTURER'S INSTRUCTIONS

A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, [start-up,] adjusting, and finishing, to the Contract Representative in quantities specified for Product Data.

B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.12 MANUFACTURER'S FIELD REPORTS

A. Submit reports for Contract Representative's and System's benefit.

B. Submit report in duplicate within 7 days of observation to the Contract Representative for information.

C. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.13 ERECTION DRAWINGS

A. Submit to the Architect and Contract Representative for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

B. Data indicating inappropriate or unacceptable Work may be subject to action by the Architect, Engineer, or Contract Representative.

1.14 CONSTRUCTION PHOTOGRAPHS

A. Provide photographs of construction throughout progress of Work produced by an experienced] photographer, acceptable to the Contract Representative.

B. Twice monthly submit photographs.

C. Photographs: Submit digital images on 3-1/2” diskettes or on compact discs.

D. Take multiple site photographs from differing directions and interior photographs indicating relative progress of the Work, three (3) days maximum prior to submitting.

E. Identify each image. Identify name of Project, contract number phase orientation of view, date and time of view.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01600

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Products.

B. Product delivery requirements.

C. Product storage and handling requirements.

D. Product options.

E. Product substitution procedures.

F. Equipment electrical characteristics and components.

1.2 PRODUCTS

A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.

B. All materials and equipment shall be new, except as specifically permitted by Contract Documents.

C. Furnish interchangeable components from same manufacturer for components being replaced.

D. The use of asbestos containing materials shall be prohibited.

1.3 PRODUCT DELIVERY REQUIREMENTS

A. Transport and handle products in accordance with manufacturer's instructions.

B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.

C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Store and protect products in accordance with manufacturers' instructions.

B. Store with seals and labels intact and legible.

C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

D. For exterior storage of fabricated products, place on sloped supports above ground.

E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection only with prior approval from the Contract Representative.

F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.

H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers with or without provision for substitutions: Products of one of manufacturers named and meeting specifications, no options or substitutions allowed. Submit request for substitution for any manufacturer not named in accordance with the following article.

1.6 PRODUCT SUBSTITUTION PROCEDURES

A. Where Bidding Documents stipulate particular Products, substitution requests will ONLY be considered before receipt of Bids. Submit requests per the requirements specified in this section.
   1. All requests shall be submitted to the Contract Representative not later than five (5) business days before the hour and day set for bid opening. Incomplete requests or requests received after this deadline will not be considered.
   2. All requests that are approved and are acceptable to the Department will be issued as part of an Addendum to each Bidder who has received a set of bidding documents, so that all Bidders may avail themselves of the change in submitting their Proposals.

B. Substitutions [may] be considered after bid opening when a product becomes unavailable through no fault of the Contractor. The Contractor shall apply to the Contract Representative, in writing, within ten (10) days of his realizing his inability to furnish the article specified, describing completely the substitution he desires to make. The Contractor shall include a dated written statement from the manufacturer outlining an explanation for the unavailability of the product. Substitutions for reasons of lead times, i.e., the time between when the Contractor orders necessary materials from the vendor

and anticipated delivery, will only be reviewed if the lead time is more than the length of the contract time. The Department may extend the contract time to accommodate the product specified. No additional costs from the Contractor will be considered due to the fact that the Contractor shall verify lead times and coordinate with contract time during the bidding phase.

C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

D. A request constitutes a representation that Bidder:
   1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
   2. Will provide same warranty for Substitution as for specified product.
   3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to the State.
   4. Waives claims for additional costs or time extension which may subsequently become apparent.
   5. Will reimburse Department and Architect and/or Engineer for review or redesign services associated with re-approval by authorities having jurisdiction.

E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.

F. Substitution Submittal Procedure:
   1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
   2. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
   3. The Department will notify Bidders in writing of decision to accept by issuing an addendum.

PART 2 PRODUCTS

A. Not used

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01700

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Closeout procedures.

B. Final cleaning.

C. Protecting installed construction.

D. Project record documents.

E. Manual for materials and finishes.

F. Product warranties and product bonds.

G. Guarantee of work.

1.2 CLOSEOUT PROCEDURES

A. Submit a signed Substantial Completion Application attesting that the Contract Documents have been reviewed, Work has been inspected, and that all Work is complete in accordance with Contract Documents and ready for Contract Representative review. The Substantial Completion Application for use by the Contractor is attached to the end of this specification section. The Contract Representative may modify this Agreement to accommodate any changes in Work.

1. Provide submittals to the Contract Representative as required by the Contract Documents and as required by authorities having jurisdiction.

B. Only after completion of all Punch List items and submission of all items the Contractor shall submit a Final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

C. College will occupy portions of building as specified in Section 01100.

1.3 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

B. Clean debris from roofs, gutters, downspouts, and drainage systems.

C. Clean site; sweep paved areas, rake clean landscaped surfaces.

D. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.4 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual specification sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

F. Prohibit traffic from landscaped areas.

1.5 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed Shop Drawings, Product Data, and Samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by State.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress, not less than weekly.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
1. Manufacturer's name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
1. Measured depths of foundations in relation to finish [first] [main] floor datum.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
4. Field changes of dimension and detail.

5. Details not on original Contract drawings.

G. Submit documents to the Contract Representative at time of Substantial Completion.

1.6 MANUAL FOR MATERIALS AND FINISHES

A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. The Contract Representative will review draft and return one copy with comments.

B. For equipment, or component parts of equipment put into service during construction and operated by State, submit documents within ten days after acceptance.

C. Submit one copy of completed volumes (15) fifteen days prior to Substantial Completion. Draft copy be reviewed and returned after Substantial Completion, with Architect/Engineer comments. Revise content of document sets as required prior to final submission.

D. Submit one set of revised final volumes in final form prior to final inspection, and one electronic version.

E. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Include information for re-ordering custom manufactured products.

F. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

G. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.

H. Additional Requirements: As specified in individual product specification sections.

I. Include listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.7 PRODUCT WARRANTIES AND PRODUCT BONDS

A. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten days after Substantial Completion. All warranties start dates shall be the Substantial Completion Date, if project is phased all warranties to start at the date of Substantial Completion of each phase.

B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.

C. Verify documents are in proper form, contain full information, and are notarized.

D. Co-execute submittals when required.

E. Include Table of Contents and assemble in three D side ring binder with durable plastic cover.

F. Submit prior to final Application for Payment.

G. Time Of Submittals:
   1. For equipment or component parts of equipment put into service during construction with State's permission, submit documents within (10) ten days after acceptance.
   2. Make other submittals within (10) ten days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within (10) ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

1.8 GUARANTEE OF WORK

A. Except as otherwise specified, all work shall be guaranteed by the Contractor against defects resulting form the use of inferior materials, equipment or workmanship for one (1) year from the Date of Substantial Completion of the work.

B. If, within any guarantee period, repairs or changes are required in connection with guaranteed work, which in the opinion of the Contract Representative, is rendered necessary as a result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract shall, promptly upon receipt of notice from the Commissioner, and at his own expense:
   1. Place in satisfactory condition in every particular, all such guaranteed work, correct all defects therein.
   2. Make good all damage to the building or site, or equipment or contents thereof, which in the opinion of the Contract Representative, is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract.
   3. Make good any work or material, or the equipment and contents of said building or site disturbed in fulfilling any such guarantee.

C. In any case, wherein fulfilling the requirements of the Contract or of may guarantee, embraced in or required thereby, the Contractor disturbs any work guaranteed under another contract, he shall restore such disturbed work to a condition satisfactory to the Contract Representative and guarantee such resorted work to the same extent as it was guaranteed under such other contracts.

D. If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee, the Commissioner may have the defects corrected and the Contractor and his/her Surety shall be liable for all expense incurred.

E. All special guarantees applicable to definite parts of the work that may be stipulated in the Specifications or other papers forming a part of the Contract shall be subject to the term of this paragraph during the first year of the life of such special guarantee.

F. Failure to adhere to guarantee terms may result in suspension or barring from the prequalification list, or, alternatively, the requirement of a Letter of Credit or other guaranty equal to a percentage of the Contract amount.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

Project # CON 20-02

EXHIBIT "A"

FOR

Sweeney Hall Ventilation-Mechanical Upgrade

NHTI CONCORD'S COMMUNITY COLLEGE

4 Institute Drive, Concord, NH

A COMPONENT OF THE

Community College System of New Hampshire

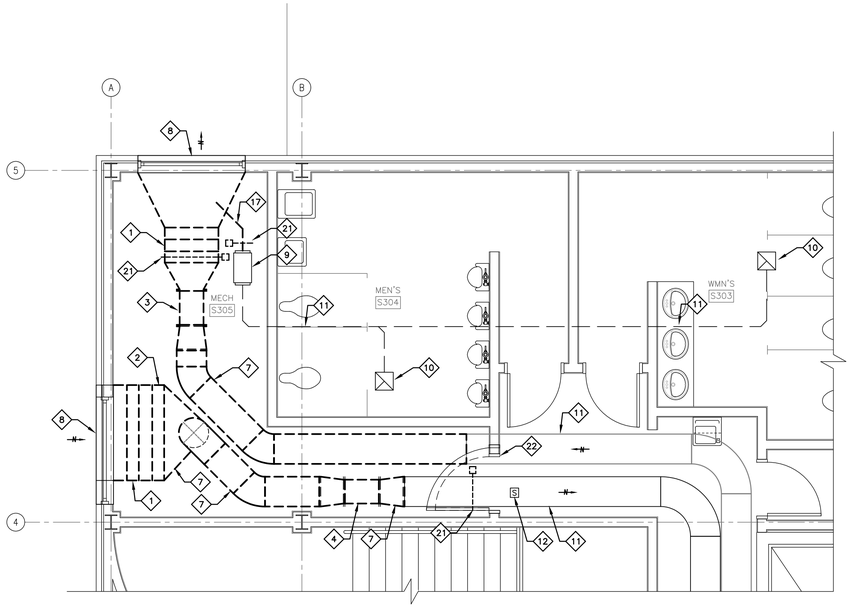
26 College Drive, Concord, NH

PROJECT MANUAL

Attached to this exhibit:

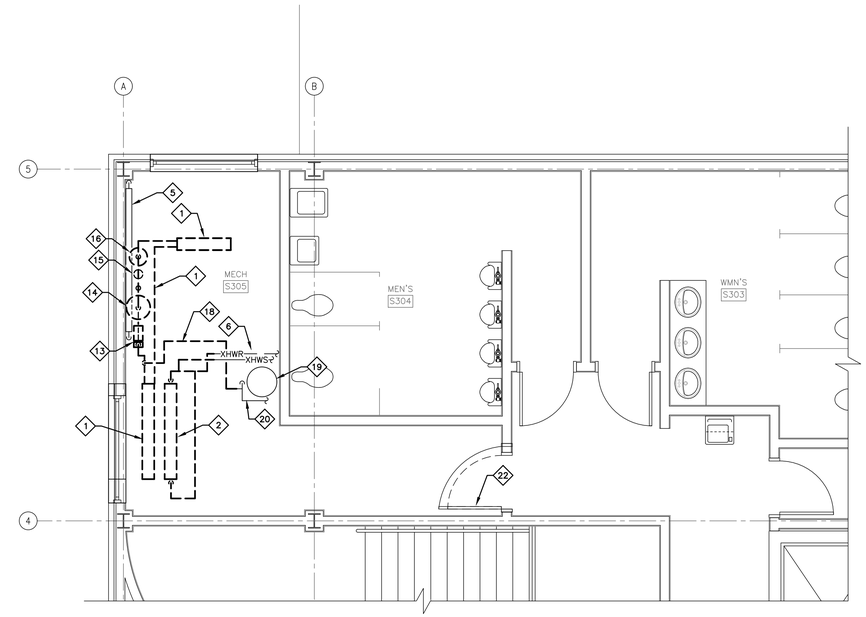
- Project Drawings & Specifications:

  Drawings: MD1.1, M1.1, M1.2, M5.1, M7.1, Dated August 14, 2019



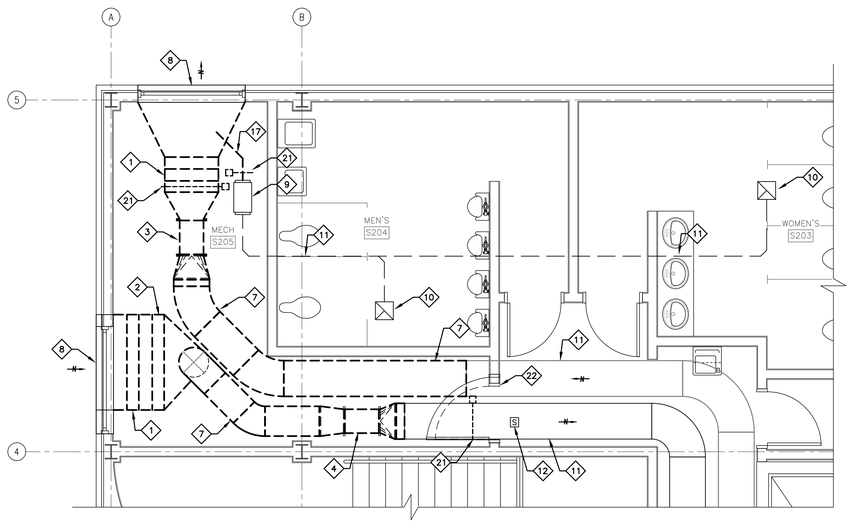
THIRD FLOOR PART PLAN – DUCTWORK DEMOLITION

SCALE: 1/4" = 1'–0"



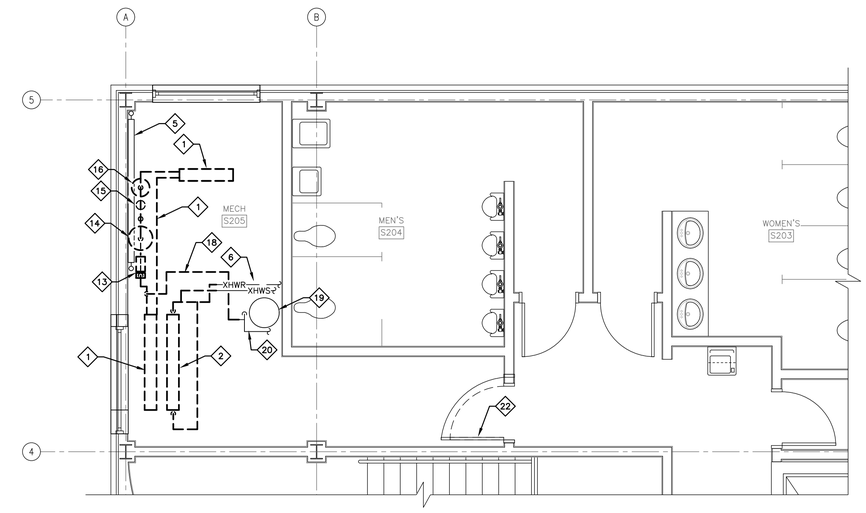
THIRD FLOOR PART PLAN – PIPING DEMOLITION

SCALE: 1/4" = 1'–0"



SECOND FLOOR PART PLAN – DUCTWORK DEMOLITION

SCALE: 1/4" = 1'–0"



SECOND FLOOR PART PLAN – PIPING DEMOLITION

SCALE: 1/4" = 1'–0"

DEMOLITION LINE TYPE LEGEND

	EXISTING EQUIPMENT, PIPING, DUCTWORK, ETC. TO BE REMOVED.
	EXISTING EQUIPMENT, PIPING, DUCTWORK, ETC. TO REMAIN.
	EXISTING GENERAL CONSTRUCTION TO BE REMOVED.

MECHANICAL DEMOLITION KEYNOTES '◇'

1. REMOVE EXISTING DUCTED GLYCOL HEATING COIL AND ALL ASSOCIATED PIPING, INSULATION, VALVES AND CONTROLS COMPLETE.
2. REMOVE EXISTING DUCTED HOT WATER HEATING COIL AND ALL ASSOCIATED INSULATION, VALVES, CONTROLS AND PIPING COMPLETE TO POINTS INDICATED. REWORK PIPING WITH NEW AS INDICATED ON NEW WORK PLANS.
3. REMOVE EXISTING INLINE EXHAUST FAN AND ALL ASSOCIATED HANGING HARDWARE, WIRING AND CONTROLS COMPLETE. TURN OVER TO OWNER.
4. REMOVE EXISTING INLINE SUPPLY FAN AND ALL ASSOCIATED HANGING HARDWARE, WIRING AND CONTROLS COMPLETE. TURN OVER TO OWNER.
5. EXISTING FIN–TUBE RADIATION TO REMAIN AS IS.
6. EXISTING HOT WATER SUPPLY AND RETURN PIPING TO REMAIN AS IS.
7. REMOVE EXISTING DUCTWORK AND ALL ASSOCIATED INSULATION TO POINTS INDICATED. REWORK WITH NEW AS INDICATED ON NEW WORK PLANS.
8. EXISTING LOUVER TO REMAIN.
9. EXISTING INLINE EXHAUST FAN TO REMAIN. REMOVE ALL EXISTING PNEUMATIC CONTROLS AND REWORK WITH NEW ELECTRIC/ELECTRONIC CONTROLS.
10. EXISTING CEILING EXHAUST GRILLE TO REMAIN.
11. EXISTING DUCTWORK (SUPPLY/EXHAUST) TO REMAIN.
12. EXISTING DUCT MOUNTED SMOKE DETECTOR TO REMAIN.
13. REMOVE EXISTING GLYCOL HEATING PUMP AND ALL ASSOCIATED PIPING, INSULATION, VALVES, CONTROLS AND WIRING COMPLETE. TURN PUMP OVER TO OWNER.
14. REMOVE EXISTING GLYCOL HEATING STORAGE VESSEL AND ALL ASSOCIATED PIPING AND INSULATION COMPLETE.
15. REMOVE EXISTING GLYCOL SHOT FEEDER ASSEMBLY AND ALL ASSOCIATED PIPING AND INSULATION COMPLETE.
16. REMOVE EXISTING INLINE EXPANSION TANK COMPLETE.
17. REMOVE EXHAUST FAN DISCHARGE DUCTWORK BACK TO DISCHARGE OF FAN. REWORK WITH NEW DUCTWORK AND DAMPER AS INDICATED ON NEW WORK PLANS.
18. REMOVE EXISTING COLD WATER MAKE–UP LINE TO POINT INDICATED.
19. EXISTING DOMESTIC HOT WATER TANK TO REMAIN AS IS.
20. EXISTING DOMESTIC COLD WATER PIPE TO REMAIN AS IS.
21. REMOVE EXISTING PNEUMATIC CONTROL DAMPER COMPLETE.
22. REMOVE EXISTING DOOR, FRAME AND WALL AS NECESSARY TO ACCOMMODATE INSTALLATION ON NEW 42" WIDE DOOR.

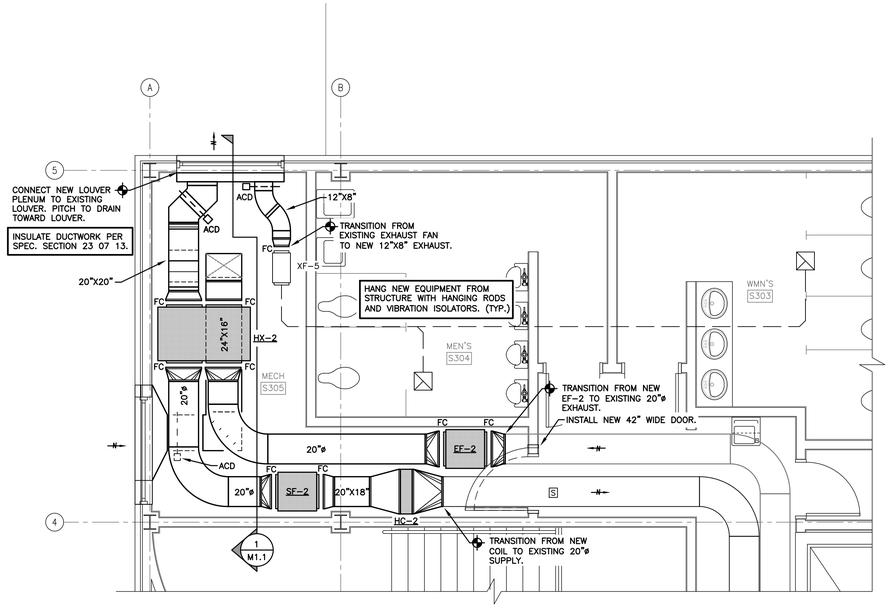
YEATON ASSOCIATES, INC.
Bedford, NH | Littleton, NH
MEP/FP Engineers
603.444.6578
www.yeatonassociates.com
YA Project # 19016ME

NHTI CAMPUS, SWEENEY HALL ANALYSIS & UPGRADE

CONCORD NH

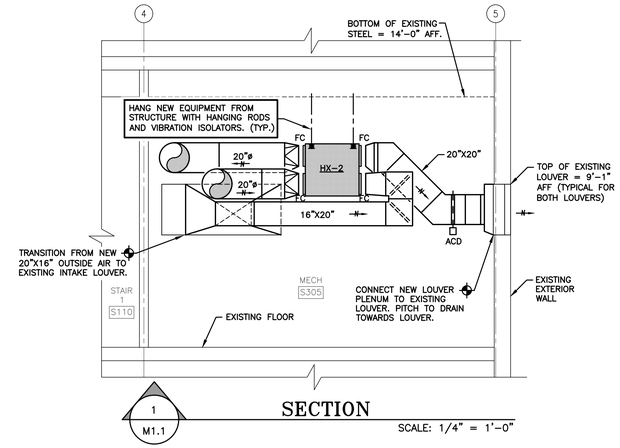
DATE:	08–14–2019	DRAWN BY:	BLN
SCALE:	AS NOTED	CHECKED BY:	JDV
NHTI - CONCORD'S COMMUNITY COLLEGE 31 COLLEGE DRIVE CONCORD, NEW HAMPSHIRE 03301		DRWG. NO. 1 OF 1	MD1.1

Date: 09/17/2019–11:06, Dwg: 19016ME MD1.1.dwg, Tab: MD1.1, User: Bnelson



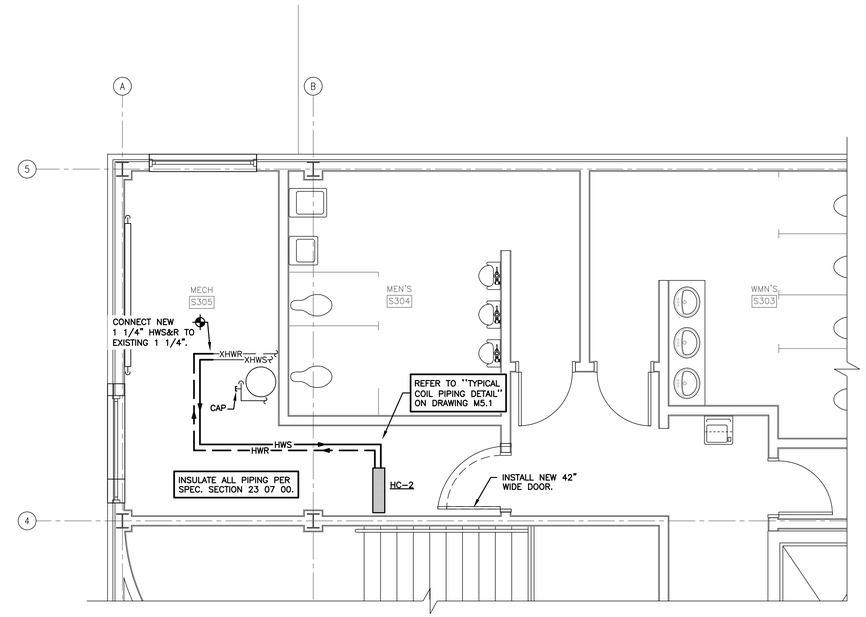
THIRD FLOOR PART PLAN – DUCTWORK

SCALE: 1/4" = 1'-0"



SECTION

SCALE: 1/4" = 1'-0"

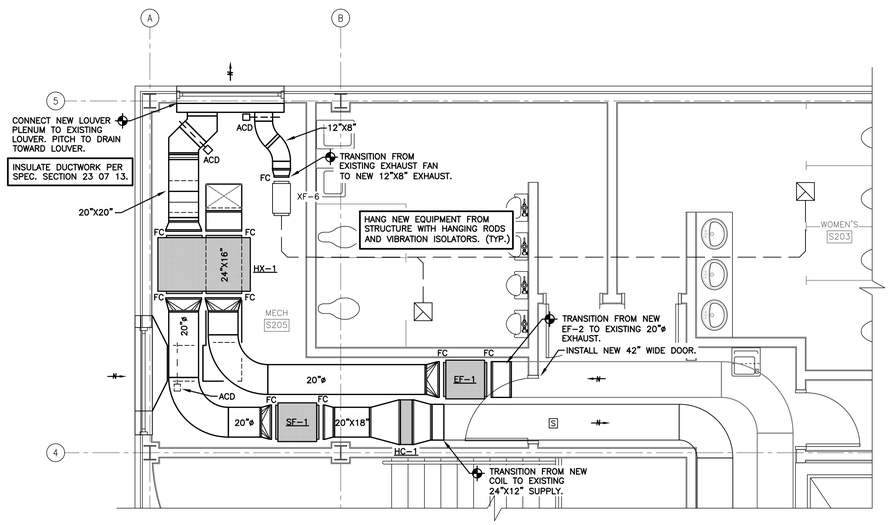


THIRD FLOOR PART PLAN – PIPING

SCALE: 1/4" = 1'-0"

LEGEND

AFF	ABOVE FINISHED FLOOR		SUPPLY DUCT
A.L.	ACOUSTICALLY LINED		RETURN DUCT
CFM	CUBIC FEET PER MINUTE		PIPE RISE
C.M.	CONSTRUCTION MANAGER		PIPE DROP
EA	EXHAUST AIR		DIRECTION OF FLOW (WATER)
E.C.	ELECTRICAL CONTRACTOR		DIRECTION OF FLOW (AIR)
EWT	ENTERING WATER TEMPERATURE		UNION
FC	FLEX CONNECTION		BALL VALVE
FTR	FIN-TUBE RADIATION		CHECK VALVE
GPM	GALLONS PER MINUTE		CIRCUIT SETTER (C.S./SHUTOFF VALVE)
MBH	THOUSAND BTU'S PER HOUR	HWS	HOT WATER SUPPLY
M.C.	MECHANICAL CONTRACTOR	HWR	HOT WATER RETURN
N.I.C.	NOT IN CONTRACT	XHWS	EXISTING HOT WATER SUPPLY
NTS	NOT TO SCALE	XHWR	EXISTING HOT WATER RETURN
OA	OUTDOOR AIR		EXISTING SUPPLY DUCT
RA	RETURN AIR		EXISTING EXHAUST OR RETURN DUCT
SA	SUPPLY AIR		
TYP.	TYPICAL		
WTD	WATER TEMPERATURE DROP		
T	THERMOSTAT		
	CONN. POINT OF NEW WORK TO EXISTING		

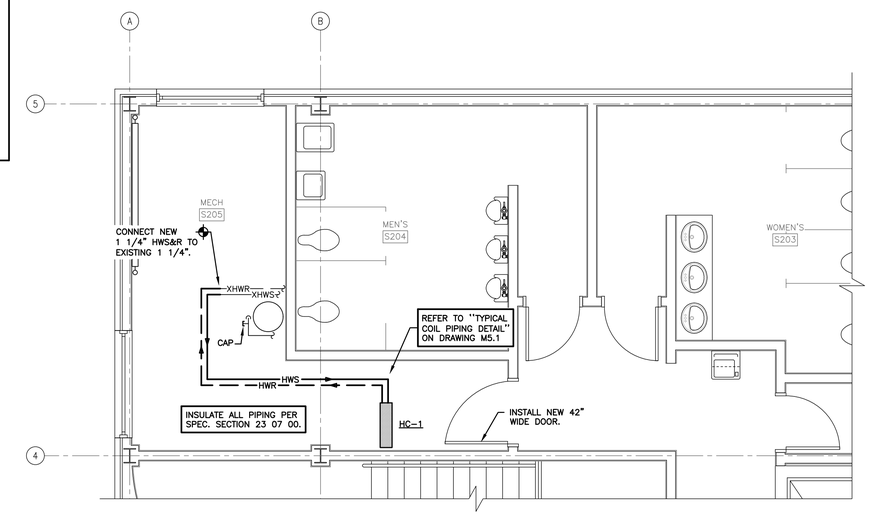


SECOND FLOOR PART PLAN – DUCTWORK

SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. ALL EQUIPMENT, PIPING AND DUCTWORK SHOWN DIAGRAMMATICALLY ONLY. EXACT LOCATION TO BE DETERMINED AND COORDINATED IN THE FIELD WITH ALL EXISTING CONDITIONS AND BY ALL TRADES INVOLVED.
2. ALL ROUGH OPENINGS THRU EXTERIOR WALLS SHALL BE SEALED/CAULKED WATERTIGHT WITH ELASTOMERIC SEALANT.
3. HOT WATER RUNOUTS TO HYDRONIC TERMINALS SHALL BE MADE WITH NO BULLHEAD TEES.
4. DUCT DIMENSIONS ARE TO INSIDE OF LINER WHERE APPLICABLE.
5. MOUNTING HEIGHTS FOR THERMOSTATS, EQUIPMENT ON/OFF SWITCHES, ETC., LOCATED IN HANDICAP ACCESSIBLE SPACES SHALL BE 48" TO TOP OF CONTROL UNLESS NOTED OTHERWISE BY OWNER.
6. FIRE AND MOISTURE SEAL ALL PIPE PENETRATIONS THRU GENERAL CONSTRUCTION WITH SILICONE BASED ELASTOMERIC UL 1479 SEALANT IF FIRESTOPPING IS REQUIRED.



SECOND FLOOR PART PLAN – PIPING

SCALE: 1/4" = 1'-0"

N

STATE OF NEW HAMPSHIRE WALTER L. GRAY JR. NO. 7421 LICENSED PROFESSIONAL ENGINEER

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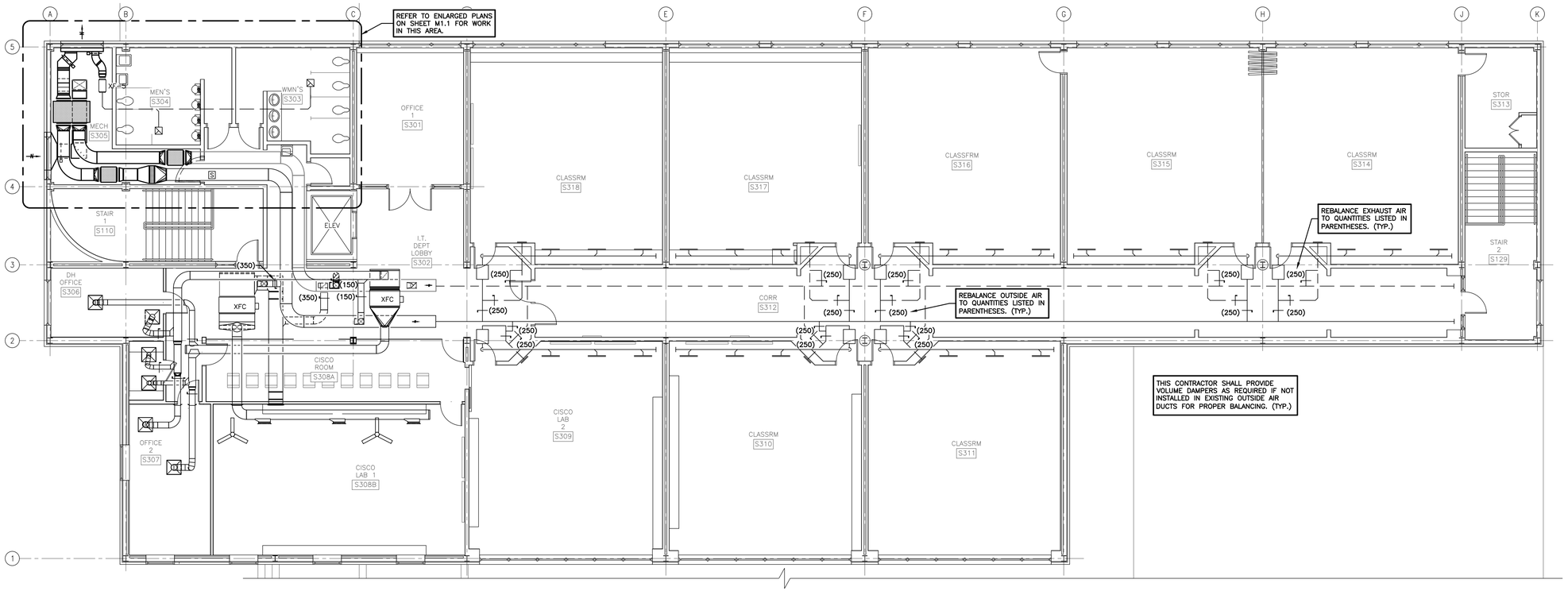
YA Project # 19016ME

NHTI CAMPUS, SWEENEY HALL
ANALYSIS & UPGRADE

CONCORD NH

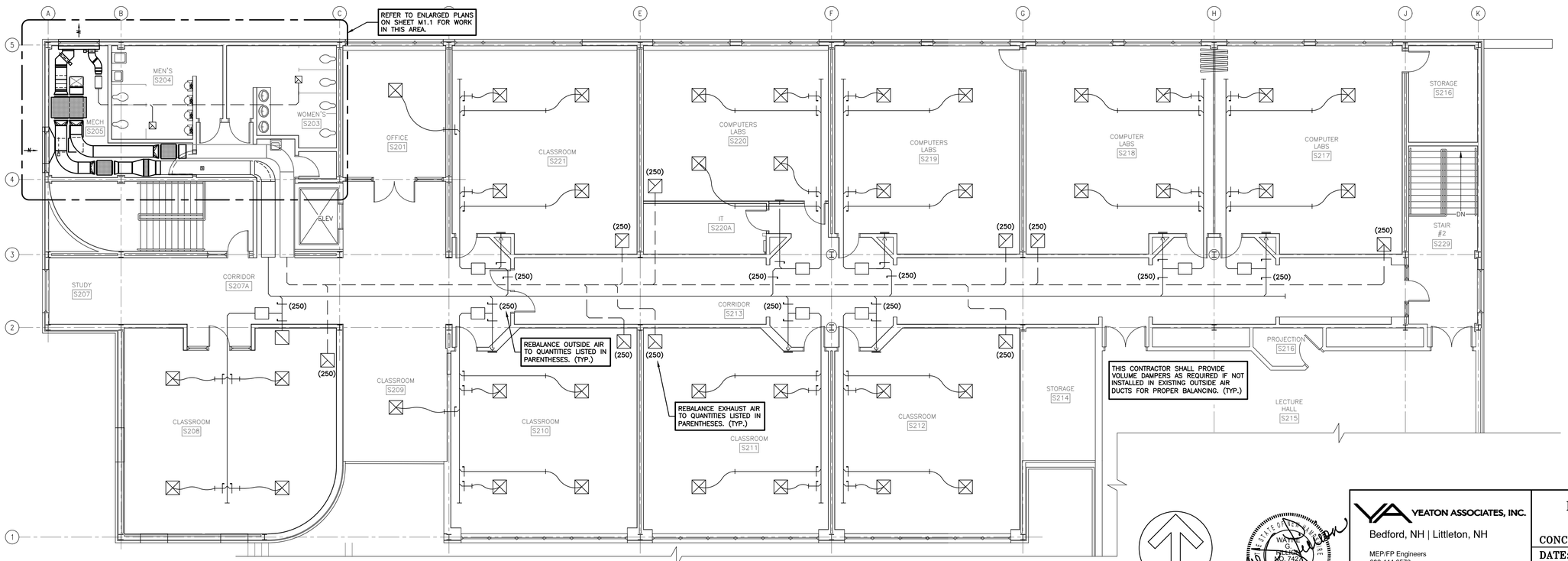
DATE:	08-14-2019	DRAWN BY:	BLN
SCALE:	AS NOTED	CHECKED BY:	JDV
NHTI - CONCORD'S COMMUNITY COLLEGE 31 COLLEGE DRIVE CONCORD, NEW HAMPSHIRE 03301		DRWG. NO. 1 OF 4	M1.1

Date: 09/17/2019-11:07, Dwg: 19016ME M1.1.DWG, Tab: M1.1, User: Bnelson



THIRD FLOOR PART PLAN – DUCTWORK

SCALE: 1/8" = 1'–0"



SECOND FLOOR PART PLAN – DUCTWORK

SCALE: 1/8" = 1'–0"

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Date: 09/17/2019–11:08, Dwg: 19016ME M1.2.DWG, Tab: M1.2, User: Bnelson

MECHANICAL WORK NOTES

1. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO ENSURE A COMPLETE AND OPERABLE SYSTEM(S) UPON COMPLETION OF WORK AT THE BUILDING IN THIS CONTRACT.
2. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSULATING ALL NEW AND DISTURBED PIPING, COMBUSTION AIR AND BREECHING IN ACCORDANCE WITH THE INTERNATIONAL ENERGY CONSERVATION CODE 2015 – CHAPTER 5.
3. ALL MECHANICAL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE FOLLOWING CODES AND STANDARDS.

   A. 2015 INTERNATIONAL BUILDING CODE WITH NH AMENDMENTS.
   B. 2015 INTERNATIONAL PLUMBING CODE WITH NH AMENDMENTS.
   C. 2015 INTERNATIONAL MECHANICAL CODE WITH NH AMENDMENTS.
   D. 2015 INTERNATIONAL ENERGY CONSERVATION CODE WITH NH AMENDMENTS.
   E. 2015 NFPA 101, LIFE SAFETY CODE.
4. ALL WORK PERFORMED BY THE MECHANICAL CONTRACTOR SHALL COMPLY WITH APPLICABLE PORTIONS OF ALL STATE OR LOCAL LAWS, ORDINANCES, RULES AND REGULATIONS OF LOCAL UTILITY COMPANIES AND FIRE DEPARTMENTS PLUS LOCAL AUTHORITY HAVING JURISDICTION (AHJ).
5. THE MECHANICAL CONTRACTOR SHALL COORDINATE ALL EQUIPMENT SHUTDOWNS AS REQUIRED WITH THE OWNER IN ADVANCE FOR COORDINATION PURPOSES.
6. PIPE HANGERS SHALL BE SWIVEL RING, SPLIT RING, WROUGHT PIPE CLAMP, BAND OR ADJUSTABLE WROUGHT CLEVIS TYPE.

ELECTRICAL WORK NOTES

1. ALL ELECTRICAL WORK PERFORMED UNDER THIS PROJECT SHALL BE DONE BY A LICENSED ELECTRICAL IN THE STATE OF NEW HAMPSHIRE.
2. ALL ELECTRICAL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE FOLLOWING CODES AND STANDARDS.

   A. 2017 NFPA 70, NATIONAL ELECTRICAL CODE.
   B. 2015 INTERNATIONAL BUILDING CODE.
   C. 2015 NFPA 1, NATIONAL FIRE CODE.
   D. 2015 NFPA 101, LIFE SAFETY CODE.
   E. 2015 INTERNATIONAL ENERGY CONSERVATION CODE.
   F. ALL AMENDMENTS TO ANY OF THE ABOVE CODES BY STATE OR AHJ.

HEATING COIL SCHEDULE

NO.	SERVES	MAKE & MODEL	CFM	EAT	LAT	MBH	GPM	EWT	LWT	WPD	APD	REMARKS
HC–1	SF–1	TRANE TYPE 5W 26"L X 21"H	2250	40°	70°	73.2	7.31	180°	160°	.36'	.11"	1 ROW, 96 FPF, PF–H, NO TURBS
HC–2	SF–2	TRANE TYPE 5W 30"L X 21"H	2500	40°	70°	81.3	8.12	180°	160°	.45'	.10"	1 ROW, 91 FPF, PF–H, NO TURBS

FAN SCHEDULE

NO.	AREA SERVED	MAKE & MODEL	CFM	FAN RPM	SP	HP	ELECTRICAL DATA			MOTOR STARTER	SONES	REMARKS
							VOLTS	PH	CY			
EF–1	SECOND FLOOR	GREENHECK MODEL SQ–160–VG	2250	1320	1.25"	2	208	1	60	RELAY BY ATC	9.2	1
EF–2	THIRD FLOOR	GREENHECK MODEL SQ–160–VG	2500	1358	1.25"	2	208	1	60	RELAY BY ATC	6.9	1
SF–1	SECOND FLOOR	GREENHECK MODEL SQ–160–VG	2250	1320	1.25"	2	208	1	60	RELAY BY ATC	9.2	1
SF–2	THIRD FLOOR	GREENHECK MODEL SQ–160–VG	2500	1358	1.25"	2	208	1	60	RELAY BY ATC	6.9	1

1 FURNISH EC MOTOR WITH INTERNAL OVERLOAD PROTECTION, UNIT MOUNTED DISCONNECT SWITCH, INSULATED HOUSING AND HANGING NEOPRENE VIBRATION ISOLATORS.

HEAT EXCHANGER CORE

NO.	MAKE & MODEL	CFM (EXH.)	CFM (SUP.)	HEAT EXCHANGER WINTER			HEAT EXCHANGER SUMMER			REMARKS
				EAT (EXH)	EAT (SUP)	LAT (SUP)	EAT (EXH)	EAT (SUP)	LAT (SUP)	
HX–1	RENEWAIRE CA3XIN	2250	2250	70° DB/ 58° WB	–20°	37°	72°	91°	80°	1
HX–2	RENEWAIRE CA3XIN	2500	2500	70° DB/ 58° WB	–20°	35°	72°	91°	81°	1

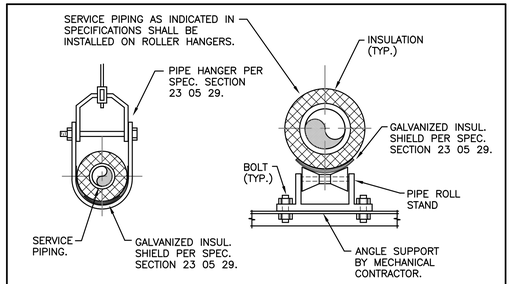
1 FURNISH UNIT WITH STATIC PLATE, HEAT AND HUMIDITY TRANSFER, INSULATED METAL CABINET WITH HINGED ACCESS DOORS AND MERV 13 FILTERS (2 SETS).

CIRCUIT SETTER SCHEDULE

GPM	CIRCUIT SETTER SIZE
UP TO 3.8	1/2"
3.8 TO 5.5	3/4"
5.5 TO 9.5	1"
9.5 TO 14.0	1 1/4"
14.0 TO 20.0	1 1/2"
20.0 TO 33.0	2"
33.0 TO 100.0	2 1/2"
100.0 TO 117.0	3"

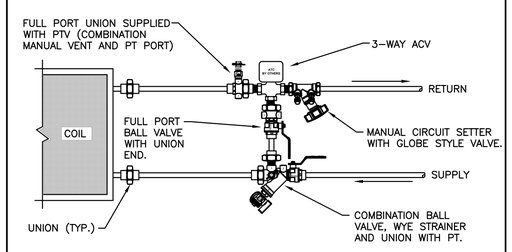
NOTE:

BASED ON MACON BALANCING GLOBE STYLE MODEL STVL. TO RETAIN FULL CALIBRATED ACCURACY, A LENGTH OF UNRESTRICTED PIPE EQUIVALENT TO 3 PIPE DIAMETERS UPSTREAM AND DOWNSTREAM SHOULD BE MAINTAINED IMMEDIATELY ADJACENT TO CIRCUIT SETTER BALANCE VALVES. CIRCUIT SETTERS TO BE SIZED PER SCHEDULE EXCEPT WHERE SIZED ON PLANS.



TYPICAL PIPE HANGER & ROLLER DETAIL

N.T.S.

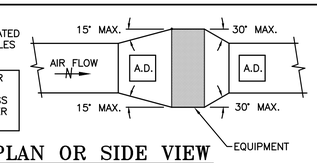


TYPICAL COIL PIPING DETAIL

N.T.S.

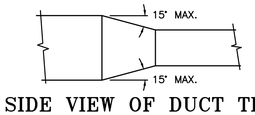
NOTE:
UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

ACCESS DOOR (A.D.) FOR COIL MAINTENANCE IN BOTTOM OF DUCT. ACCESS DOOR SIZE SHALL BE PER SPEC.



PLAN OR SIDE VIEW
DUCT TRANSFORMATION W/EQUIP. IN DUCT

N.T.S.



PLAN OR SIDE VIEW OF DUCT TRANSITION

N.T.S.

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Date: 09/17/2019–11:08, Dwg: 19016ME M5.1.DWG, Tab: M5.1, User: Bnelson

MECHANICAL SPECIFICATIONS

SECTION 23 00 00 – GENERAL REQUIREMENTS

1.01 DEMOLITION

A. THIS CONTRACTOR SHALL REMOVE ALL EXISTING PIPING, DUCTWORK, HVAC EQUIPMENT, PLUMBING, SPECIALTIES AND INCIDENTALS AS REQUIRED TO ACHIEVE THE INTENT OF THIS CONTRACT. ALL REMOVED EQUIPMENT SHALL BECOME THE PROPERTY OF THIS CONTRACTOR, UNLESS DIRECTED OTHERWISE BY THE OWNER, AND SHALL BE HAULED AWAY FROM THE SITE AND DISPOSED OF PROPERLY. THE OWNER RESERVES THE RIGHT OF FIRST REFUSAL. COORDINATE EXACT MECHANICAL DEMOLITION RESPONSIBILITIES WITH THE COMMUNITY COLLEGE SYSTEM OF NEW HAMPSHIRE (CCSNH) CONSTRUCTION MANAGER PRIOR TO BID.

1.02 SITE VISIT

A. THE MECHANICAL CONTRACTOR INVITED TO SUBMIT A PRICE FOR PERFORMING THE WORK SHOWN ON DRAWINGS AND SPECIFIED HEREIN SHALL VISIT THE SITE TO MAKE THEMSELVES FULLY AWARE OF THE EXISTING CONDITIONS, PRIOR TO SUBMITTING A BID.

1.03 SCOPE

A. ALL WORK OF THIS SECTION IS SPECIFICALLY SUBJECT TO DIVISION 1 – GENERAL REQUIREMENTS FOR THE ENTIRE PROJECT.

B. PROVIDE ALL ITEMS, ARTICLES, MATERIALS, OPERATIONS OR METHODS LISTED, MENTIONED, SCHEDULED ON THE DRAWINGS AND/OR SPECIFIED HEREIN INCLUDING ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY AND REQUIRED FOR PROJECT COMPLETION.

C. THE INTENT OF THE SPECIFICATIONS AND DRAWINGS IS TO CALL FOR FINISH WORK, TESTED AND READY FOR OPERATION.

D. ALL WORK SHALL COMPLY WITH APPLICABLE PORTIONS OF ALL STATE OR LOCAL LAWS AND ORDINANCES, ALL RULES AND REGULATIONS OF LOCAL UTILITY COMPANIES AND THE CONCORD FIRE DEPARTMENT, INCLUDING NFPA, ALL OF THE INTERNATIONAL CODES (AS ADOPTED BY THE AUTHORITIES HAVING JURISDICTION [AHJ]), NATIONAL ELECTRIC CODE (N.E.C.), ADA WITH NH AMENDMENTS AND ALL OTHER STANDARDS SET FORTH BY THE (AHJ).

E. ALL REQUIRED PERMITS AND FEES RELATIVE TO THIS DIVISION SHALL BE OBTAINED AND PAID FOR BY THIS CONTRACTOR.

F. GUARANTEE/WARRANTY ALL MECHANICAL EQUIPMENT AND WORKMANSHIP FOR ONE (1) YEAR FROM THE DATE OF PROJECT FINAL ACCEPTANCE BY THE OWNER.

G. ELECTRONICALLY SUBMIT SHOP DRAWINGS OF EQUIPMENT PROPOSED FOR INSTALLATION UNDER THIS CONTRACT FOR REVIEW AND APPROVAL BY OWNER REPRESENTATIVES.

H. ALL REQUIRED GENERAL CONSTRUCTION CUTTING, PATCHING, EXCAVATION, PAINTING AND SEALING SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. REVIEW RESPONSIBILITY FOR SAME PRIOR TO BID AND PRICE ACCORDINGLY.

I. PROVIDE AN OPERATING AND MAINTENANCE MANUAL FOR THE OWNER'S USE AT CONCLUSION OF THE CONTRACT THAT ADDRESSES ALL INSTALLED EQUIPMENT AND SPECIALTIES.

J. ALL POWER WIRING TO THE MOTOR STARTERS, OR TO THE TERMINAL BLOCKS OF PREWIRED MOTOR CONTROL CABINETS, AND BETWEEN THE MOTOR STARTER AND ELECTRIC MOTOR SHALL BE COORDINATED/PROVIDED AS PART OF THIS CONTRACT. REVIEW RESPONSIBILITY FOR SAME PRIOR TO BID AND PRICE ACCORDINGLY.

K. THIS CONTRACTOR SHALL THOROUGHLY INSTRUCT THE OWNER'S MAINTENANCE PERSONNEL IN THE PROPER PROCEDURES FOR MAINTENANCE AND OPERATION OF MECHANICAL SYSTEMS INSTALLED UNDER THIS CONTRACT.

SECTION 23 05 00 – SLEEVES AND FLASHINGS

1.01 SCOPE

A. PIPES PASSING THROUGH ALL MASONRY AND FIRE RATED GYPSUM BOARD WALLS SHALL PASS THROUGH CLEAN CUT HOLES FITTED WITH STEEL PIPE SLEEVES, THE INSIDE DIAMETER OF WHICH SHALL BE AT LEAST 1" GREATER THAN THE OUTSIDE OF THE PIPE PASSING THROUGH IT. PIPES PASSING THROUGH NON–RATED GYPSUM BOARD WALLS DO NOT REQUIRE SLEEVES, BUT THE VOID BETWEEN WALL OPENING AND PIPE MUST BE SEALED AND TAPED. WHERE UL APPROVED FOR THE APPLICATION, PIPE INSULATION SHALL BE CONTINUOUS THROUGH SLEEVE/HOLE. ALL SPACE BETWEEN INSULATION JACKET AND SLEEVE/HOLE SHALL BE CAULKED FULL WITH ELASTOMERIC UL 1479 SEALANT. INSTALLATION DETAILS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTRUCTIONS IN ORDER TO BEAR THE UL CLASSIFICATION MARKING.

B. EXPOSED PIPES PASSING THROUGH WALLS, FLOORS, PARTITIONS OR CEILINGS SHALL BE FITTED WITH CHROMIUM PLATED HEAVY GAUGE WROUGHT BRASS ESCUTCHEONS, FIT SNUGLY AND SECURELY HELD IN PLACE.

C. DUCTS PASSING THROUGH RATED WALLS SHALL BE CAULKED WITH A MINIMUM OF 1 1/4" THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL ASSEMBLY. AT THE POINT CONTACT LOCATION BETWEEN DUCT AND WALLBOARD, A MINIMUM 1/4" DIAMETER BEAD OF CAULK SHALL BE APPLIED AT THE WALLBOARD/DUCT INTERFACE ON BOTH SURFACES OF WALL ASSEMBLY. VOID FILL MATERIAL MUST BEAR THE UL CLASSIFICATION MARKING, EQUAL TO 3M SYSTEM NO. W–L–7013.

D. PIPES AND DUCTS PASSING THROUGH FIRE RATED FLOORS SHALL BE SEALED IN KEEPING WITH PARAGRAPHS A., B. AND C.

E. THIS CONTRACTOR SHALL SUBMIT SLEEVE AND FIRE SEALING DETAILS FOR ALL CASES OF FIRE RATED WALL, SHAFT AND FLOOR DECK PENETRATIONS APPLICABLE TO THE PROJECT. THE SHOP DRAWING SHALL BE PROVIDED BY THE FIRE SEALANT MANUFACTURER AND CLEARLY IDENTIFY ALL PRODUCTS AND THE APPLICABLE UL CLASSIFICATION OR LISTING.

F. LINK–SEAL MODULAR SEALS IN CORED HOLES MAY BE USED WHERE CALLED FOR ON DRAWINGS OR DEEMED THE BEST APPLICATION.

SECTION 23 05 93 – TESTING AND BALANCING

PART 1 – GENERAL

1.01 SCOPE

A. PROCURE THE SERVICES OF AN INDEPENDENT TESTING AND BALANCING AGENCY THAT SPECIALIZES IN THE TESTING AND BALANCING OF HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS.

B. BOTH THE AIR AND THE WATERS SYSTEMS SHALL BE DONE BY THE SAME AGENCY.

C. WORK SHALL NOT BEGIN UNTIL ALL SYSTEMS HAVE BEEN COMPLETED, CLEANED AND PLACED IN FULL WORKING OPERATION BY THE MECHANICAL CONTRACTOR.

D. TEST, BALANCE AND ADJUST ALL AIR MOVING EQUIPMENT, TERMINALS, SUPPLY, RETURN AND EXHAUST SYSTEMS, AS WELL AS THE WATER SYSTEMS. WORK TOGETHER WITH THE ATC CONTRACTOR TO ADJUST SETPOINTS OF VALVES AND OUTSIDE/RETURN/EXHAUST DAMPERS WHERE APPLICABLE.

E. TEST, BALANCE AND ADJUST ALL WATER SYSTEMS TO PROVIDE SCHEDULED FLOWS TO ALL TERMINALS AND ELIMINATE NOISE.

F. WHEN NOTIFIED THAT ALL CONTROL SYSTEMS ARE COMPLETE AND TESTED, THE TESTING AND BALANCING CONTRACTOR SHALL PERFORM AN INDEPENDENT TEST OF ALL SYSTEMS FOR SPECIFIED SEQUENCES OF OPERATION. REPORT FINDINGS PER J. BELOW.

G. PERFORM ALL TESTS IN ACCORDANCE WITH STANDARD PROCEDURES INCLUDING THOSE OUTLINED BY THE ASSOCIATED AIR BALANCE COUNCIL (AABC) AND/OR SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC., (SMACNA).

H. AT COMPLETION OF ALL TESTING AND BALANCING, LEAVE ALL EQUIPMENT SYSTEMS, COMPONENTS, ETC., ADJUSTED WITHIN THE LIMITS OF INSTALLED EQUIPMENT AND TO MEET ALL DESIGN REQUIREMENTS. MARK ALL SETPOINTS OF ALL DAMPERS AND VALVES WITH DISTINGUISHING MARKS. IF REQUESTED, CONDUCT TESTS IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.

I. WITHIN 15 DAYS AFTER COMPLETION OF TESTING BALANCING, SUBMIT TO THE OWNER'S REPRESENTATIVE FOR REVIEW SIX (6) COPIES OF THE TESTING AND BALANCING RESULTS ON APPROVED FORMS. INCLUDE A WARRANTY PERIOD OF 90 DAYS DURING WHICH TIME THE OWNER'S REPRESENTATIVE MAY REQUEST A RECHECK OR READJUSTMENT OF ANY PART OF THE JOB.

J. ALL REPORTS SHALL CLEARLY INDICATE THE FOLLOWING MINIMUM INFORMATION:

1. AIR – SYSTEM NAME, HVAC UNITS PARAMETERS AND INDIVIDUAL OUTLET FLOW RATES. DATA MUST SHOW LOCATION, MAKE, MODEL AND SIZE OF TERMINALS.

2. WATER – CALIBRATED BALANCING DEVICE READINGS INDICATING LOCATION, SIZE, SETTING, DIFFERENTIAL PRESSURE AND RATED/ACTUAL GPM.

SECTION 23 06 20 – PIPE AND PIPE FITTINGS

1.01 SCOPE

A. ALL PIPING SHALL BE INSTALLED IN ACCORDANCE WITH GOVERNING CODES AND IN A WORKMANLIKE MANNER.

1.02 SCHEDULE OF PIPE MATERIALS

SERVICE	LOCATION	SIZE	MATERIAL	TYPE	WEIGHT
HWS&R	BUILDING	ALL	COPPER	HARD	TYPE L

1.03 SCHEDULE OF PIPE FITTINGS

SERVICE	LOCATION	SIZE	MATERIAL	TYPE	WEIGHT
HWS&R	BUILDING	ALL	WROUGHT COPPER	SOLDERED	LEAD FREE

SECTION 23 05 29 – EQUIPMENT SUPPORTS

1.01 SCOPE

A. PROVIDE SUITABLE AND SUBSTANTIAL HANGERS AND SUPPORTS FOR ALL HORIZONTAL AND VERTICAL LINES AS MANUFACTURED BY B–LINE, ALLEGHENY INDUSTRIAL, ANVIL OR ITT GRINNELL, OR APPROVED EQUAL.

B. SUPPORT COPPER, STEEL, CAST IRON AND PVC PIPING IN ACCORDANCE WITH THE PIPE MANUFACTURER'S PUBLISHED INSTRUCTIONS, OR THE SCHEDULE BELOW, WHICHEVER IS MORE STRINGENT.

C. SUPPORT PIPING IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

PIPE MATERIAL	MAX. HORIZONTAL SPACING	MAX. VERTICAL SPACING
COPPER TUBING 1 1/4" & SMALLER	6'	10'
PVC	PER MANUFACTURER'S RECOMMENDATION	

D. PIPING, DUCTWORK AND EQUIPMENT SHALL NOT BE HUNG FROM THE WORK OF OTHER TRADES.

E. HANG AND SUPPORT DUCTWORK IN ACCORDANCE WITH SMACNA STANDARDS AND BEST TRADE PRACTICES.

F. HANGERS SHALL BE OF HEAVY CONSTRUCTION SUITABLE FOR THE SIZE OF PIPE TO BE SUPPORTED. ALL MATERIALS, EXCEPT PIPE ROLLERS, SHALL BE WROUGHT OR MALLEABLE IRON OR STEEL. HANGERS SHALL BE ADJUSTABLE TYPE.

G. HANGERS AND PIPE CLAMPS USED ON COPPER PIPING SHALL BE SOLID COPPER OR COPPER PLATED. WHERE TUBE IS IN CONTACT WITH DISSIMILAR METAL, PROTECT WITH SHIELD OR PLASTIC COVER.

SECTION 23 05 23 – VALVES AND COCKS

1.01 SCOPE

A. PROVIDE SHUT–OFF VALVES TO ISOLATE SECTIONS OF PIPING AND EQUIPMENT. VALVES SHALL BE AT THE INLET AND OUTLET OF EQUIPMENT TO PERMIT REMOVAL FOR REPAIRS WITHOUT INTERFERING WITH THE REMAINDER OF THE SYSTEM.

B. DO NOT LOCATE VALVES WITH STEMS BELOW HORIZONTAL. PROVIDE BALL, CHECK, BALANCING COCKS, PLUS AIR VENTS AND OTHER TYPE OF VALVES AS REQUIRED FOR COMPLETE AND PROPER VALVING OF THE ENTIRE INSTALLATION, TO CONTROL FLOW, SHUT–OFF, PREVENT BACKFLOW, PROVIDE DRAINAGE AND CONTROL PRESSURE AND TEMPERATURES.

C. VALVES SHALL BE AS MANUFACTURED BY WATTS, APOLLO, NIBCO, VICTAULIC, ANVIL INTERNATIONAL OR MILWAUKEE VALVE CO.

1.02 MATERIAL

A. APPLICATION: HWS&R 2" AND SMALLER – BALL VALVES FOR FLOW CONTROL AND/OR TIGHT SHUT–OFF SHALL BE ALL BRONZE CONSTRUCTION, FULL PORT BRASS BALL, 150 SWP, WITH BLOW–OUT–PROOF STEM DESIGN, EQUAL TO APOLLO 77 SERIES, WATTS OR NIBCO.

B. WHERE MANUAL BALANCING VALVES ARE INDICATED, FURNISH AND INSTALL MACON BALANCING "GLOBE STYLE" MODEL STV/L FOR SIZES 1/2" THRU 2" OR EQUAL BY TOUR ANDERSSON. VALVES SHALL BE TIGHT SHUT–OFF AND SIZED FOR GPM AS RECOMMENDED BY THE MANUFACTURER.

C. DRAIN VALVES SHALL BE INSTALLED AT LOW POINTS IN PIPING AND AS OTHERWISE REQUIRED TO COMPLETELY DRAIN PIPING SYSTEM AND EQUIPMENT. DRAIN VALVES SHALL BE BALL VALVES OF SIZE AS SHOWN OR REQUIRED, IN NO CASE SMALLER THAN 1/2" I.P.S., EQUAL TO WATTS SERIES B–6000–CC OR APOLLO 70–HC SERIES WITH 3/4" HOSE MALE THREADED END OUTLET WITH CAP AND CHAIN.

D. APPROVED STRAINERS SHALL BE INSTALLED IN THE INLET CONNECTIONS TO EQUIPMENT TO PROTECT ALL APPARATUS OR ANY AUTOMATIC CHARACTER WHOSE PROPER FUNCTION WOULD BE INTERFERED WITH BY DIRT ON THE SEAT OR BY SCORING OF THE SEAT. STRAINERS SHALL BE EQUAL TO WATTS SERIES LF777S AND LFS777S.

SECTION 23 07 00 – PIPE INSULATION

PART 1 – GENERAL

1.01 SCOPE

A. PROVIDE ALL INSULATING MATERIALS REQUIRED FOR PIPING AND MECHANICAL EQUIPMENT. THE EXECUTION OF THE WORK SHALL BE BY AN EXPERIENCED INSULATION CONTRACTOR IN STRICT ACCORDANCE WITH THE BEST PRACTICE OF THE TRADE AND THE INTENT OF THE SPECIFICATIONS.

B. INSULATION THERMAL PROPERTIES AND THICKNESS SHALL COMPLY WITH THE INTERNATIONAL ENERGY CONSERVATION CODE 2015 – CHAPTER 5.

PART 2 – PRODUCT

2.01 MATERIAL

A. INSULATION SHALL BE AS MANUFACTURED BY OWENS–CORNING FIBERGLASS CORP., KNAUF, JOHNS–MANVILLE CO., OR APPROVED EQUAL.

B. INSULATING MATERIALS, JACKETS, ADHESIVES, ACCESSORIES AND APPLICATIONS SHALL DEVELOP A SYSTEM HAVING A UL RATING WITH A FLAME SPREAD OF NOT OVER 25, A FUEL CONTRIBUTED RATING OF NOT OVER 50 AND A SMOKE DEVELOPED RATING OF NOT OVER 50.

C. HOT WATER SUPPLY & RETURN PIPING: COVER ALL NEW WITH MOLDED, HEAVY DENSITY FIBERGLASS PIPE INSULATION WITH ASJ/SSL. ADHERE AND SEAL END JOINT STRIPS AND OVERLAP SEAMS WITH PROPER MASTIC TO PROVIDE CONTINUOUS VAPOR BARRIER JACKET. ALL FITTINGS SHALL BE INSULATED WITH PRECUT FIBERGLASS FORMED FITTINGS WITH PRE–MOLDED PVC JACKET MECHANICALLY FASTENED, INCLUDING UNIONS, COUPLINGS, FLANGES AND AIR SEPARATORS WHERE APPLICABLE.

SERVICE	PIPE SIZE	INSULATION THICKNESS
HWS&R	UP TO 1 1/2"	1 1/2"

SECTION 23 07 13 – DUCT INSULATION

1.01 SCOPE

A. INSULATION SHALL BE AS MANUFACTURED BY OWENS–CORNING FIBERGLASS CORP., KNAUF, JOHNS–MANVILLE CO., OR APPROVED EQUAL.

B. INSULATING MATERIALS, JACKETS, ADHESIVES, ACCESSORIES AND APPLICATIONS SHALL DEVELOP A SYSTEM HAVING A UL RATING WITH A FLAME SPREAD OF NOT OVER 25, A FUEL CONTRIBUTED RATING OF NOT OVER 50 AND A SMOKE DEVELOPED RATING OF NOT OVER 50.

C. INSULATE ALL NEW FRESH AIR INTAKE DUCTWORK, VENTILATION AIR DUCTWORK AND EXHAUST FAN DISCHARGE DUCTWORK TO LOUVERS EXTERNALLY WITH 1 1/2" FOIL FACED .75 PCF (R = 5.2) FIBERGLASS INSULATION. INSULATION SHALL BE WRAPPED TIGHTLY ON DUCTWORK WITH ALL CIRCUMFERENTIAL JOINTS BUTTED TOGETHER AND LONGITUDINAL JOINTS OVERLAPPED 2". STAPLE LONGITUDINAL JOINTS SECURELY AND FOIL TAPE ALL JOINTS AIR TIGHT. DUCTWORK SHOWN TO BE ACOUSTICALLY LINED DOES NOT HAVE TO BE WRAPPED. EXPOSED SUPPLY AND RETURN AIR DUCTWORK APPLICATIONS DO NOT HAVE TO BE WRAPPED.

D. ACOUSTIC LINING SHALL BE 1" THICK FLEXIBLE CLOSED CELL DUCT LINER. LINING SHALL MEET THE LIFE SAFETY STANDARDS OF NFPA 90A, NFPA NO. 101 CLASS A RATING, UL 94–5V FLAMMABILITY CLASSIFICATION AND SHALL MEET THE REQUIREMENTS OF ASTM E96, ASTM D1056, ASTM D1171, AND UL 181 FOR RESISTANCE TO MICROBIAL GROWTH AND AIR EROSION. DIMENSIONS OF LINED DUCT ON THE DRAWINGS ARE THE INSIDE DIMENSIONS OF THE DUCT AFTER THE LINING HAS BEEN INSTALLED. PRODUCT SHALL BE NOMACO K–FLEX, ARMSTRONG AP ARMAFLEX OR IMCOA IMCOSHEET.

SECTION 23 31 00 – DUCTWORK

1.01 SCOPE

A. DUCTWORK EXCEPT WHERE OTHERWISE SPECIFIED, SHALL BE MADE OF THE BEST GRADE GALVANIZED IRON, CONSTRUCTED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE ASHRAE GUIDE, AND SMACNA GUIDE, LATEST EDITION.

B. FURNISH AND INSTALL ALL DUCTWORK, GRILLE BOXES, PLENUM CHAMBERS, DAMPERS AND ALL AUXILIARY WORK OF ANY KIND NECESSARY TO MAKE THE VARIOUS AIR HANDLING SYSTEMS OF THE PROJECT COMPLETE AND READY FOR SATISFACTORY OPERATING. ALL DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA STANDARDS FOR APPLICABLE PRESSURE CLASSIFICATION.

C. THROUGHOUT CONSTRUCTION, ALL OPEN END SUPPLY/RETURN AIR DUCTWORK (INCLUDING GRILLES, REGISTERS AND DIFFUSERS) SHALL BE SEALED WITH PLASTIC AND TAPE UNTIL PROJECT AREA IS FREE OF DUST.

D. SEAL ALL JOINTS WITH A WATER BASED SEALANT, EQUAL TO DUCTMATE PROSEAL OR APPROVED EQUAL, APPLIED PER MANUFACTURER'S RECOMMENDATIONS. TRANSVERSE JOINTS IN LOW PRESSURE DUCTWORK SHALL BE SEALED TO MEET SMACNA SEAL CLASS C–2" w.g.

E. FLEXIBLE DUCT SHALL BE COATED, FIBERGLASS CLOTH FABRIC LINER AS MANUFACTURED BY BUCKLEY "FABRI–FLEX TYPE 4", THERMAFLEX, NOVAFLEX OR EQUAL, UNINSULATED FOR VENTILATING APPLICATIONS (EXHAUST AND RETURN) AND INSULATED FOR HEATING AND COOLING APPLICATIONS (SUPPLY)

F. ACCESS DOORS: ACCESS DOORS SHALL BE PROVIDED IN DUCTWORK OF THE SIZE REQUIRED TO COMPLETELY ACCESS AND FUNCTIONALLY SERVICE EQUIPMENT CONTAINED WITHIN THE DUCTWORK. ACCESS DOORS SHALL MEET ASHRAE STANDARDS CRITERIA, AND BE EQUAL TO RUSKIN MODEL ADH22 FOR RECTANGULAR DUCTWORK, OR UNITED MCGILL BOLTED ACCESS DOORS FOR SPIRAL DUCTWORK. ACCESS DOORS SHALL BE INSTALLED IN DUCTWORK UPSTREAM AND DOWNSTREAM OF ALL HEATING COILS AND AS REQUIRED TO RESET FIRE DAMPERS.

G. SPIRAL DUCT SHALL BE SMACNA RECOMMENDED GAUGE, MEDIUM AND LOW PRESSURE UNISEAL DUCT AND FITTINGS AS MANUFACTURED BY UNITED SHEET METAL OR APPROVED EQUAL. DUCT SHALL BE MACHINE FORMED, MADE FROM STANDARD GAUGE PREMIUM GRADE, COILED, GALVANIZED SHEET METAL IN A SERIES OF CONTINUOUS AUTOMATIC OPERATIONS. DUCT SHALL BE MANUFACTURED FROM GALVANIZED STEEL MEETING ASTM A–527–71 IN MANUFACTURER'S GAUGES. FITTINGS SHALL BE DIE–STAMPED SMACNA RECOMMENDED GAUGE GALVANIZED STEEL, CONTINUOUSLY WELDED SEAMS. JOINTS SHALL BE SLIP COUPLING TYPE SEALED WITH DUCTMATE PROSEAL OR EQUAL. LOW PRESSURE DUCTWORK SHALL BE SEALED TO MEET SMACNA SEAL CLASS C–2" W.G., AND MEDIUM PRESSURE SEAL CLASS A–4" W.G., AS APPLICABLE. ALL EXPOSED DUCTWORK SHALL HAVE A PAINTABLE FINISH AND SHALL BE FIELD CLEANED AND PREPARED FOR FINAL PAINTING BY OTHERS.

SECTION 25 90 00 – ATC

1.01 SCOPE

A. ALL NEW CONTROL WORK SHALL BE AN EXTENSION OF, OR ADDITIVE TO, THE EXISTING EMS THAT CURRENTLY SERVES THE CAMPUS/BUILDING IN KEEPING WITH NHTI CAMPUS STANDARDS.

B. THE ATC CONTRACTOR (CTI) SHALL PROVIDE ALL SENSORS, EQUIPMENT AND LABOR TO PROPERLY ACHIEVE THE SEQUENCES OF OPERATION, ALONG WITH ALL POINTS NECESSARY THROUGH THE EXISTING EMS.

1.02 SEQUENCE OF OPERATION

A. SF–1/HC–1/EF–1 CONTROL:

1. SUPPLY FAN (SF–1) AND EXHAUST FAN (EF–1) SHALL BE INTERLOCKED AND OPERATE ON AN OCCUPIED/UNOCCUPIED SCHEDULE SET FORTH BY THE OWNER.
2. DURING THE OCCUPIED MODE, THE AUTOMATIC CONTROL DAMPER (ACD) IN THE OUTSIDE AIR INTAKE DUCT SHALL OPEN. WHEN THE ACD IS PROVEN OPEN, SF–1 SHALL BE ENERGIZED. SIMULTANEOUSLY, THE AUTOMATIC CONTROL DAMPER (ACD) IN THE EXHAUST AIR DISCHARGE DUCT SHALL OPEN. WHEN THE ACD IS PROVEN OPEN, EF–1 SHALL BE ENERGIZED.
3. DURING THE UNOCCUPIED MODE, BOTH OUTSIDE AIR INTAKE AND EXHAUST AIR DISCHARGE DAMPERS SHALL BE CLOSED AND THE ASSOCIATED SF–1 AND EF–1 SHALL BE DE–ENERGIZED.
4. THE DUCTED HOT WATER COIL SHALL OPERATE PER A DUCT MOUNTED DISCHARGE AIR SENSOR TO MODULATE THE 3–WAY MIXING VALVE TO PROVIDE CONSTANT 70°F (ADJ.) DISCHARGE AIR TEMPERATURE.
5. FURNISH AND INSTALL A FREEZESTAT LACED ACROSS THE LEAVING AIR FACE OF THE HEATING COIL TO AUTOMATICALLY SHUT OFF SF–1 AND EF–1 AND OPEN THE ASSOCIATED 3–WAY VALVE 100% IF THE DISCHARGE AIR TEMPERATURE DROPS BELOW 40°F (ADJ.).
6. WHENEVER THE OUTDOOR AIR TEMPERATURE EXCEEDS 75°F (ADJ.), THE EXHAUST FAN (EF–1) SHALL OPERATE CONTINUOUSLY AND THE SUPPLY FAN (SF–1) SHALL BE DE–ENERGIZED (OFF).
7. PROVIDE THE FOLLOWING POINTS LIST:
   - OPERATING STATUS: ON/OFF (SF–1 AND EF–1)
   - OUTSIDE AIR TEMPERATURE
   - ENTERING AIR TEMPERATURE HC–1
   - LEAVING AIR TEMPERATURE HC–1
   - RETURN AIR TEMPERATURE EF–1
   - ALARM

B. SF–2/HC–2/EF–2 CONTROL:
1. EQUAL TO SF–1/HC–1/EF–1.

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NHTI CAMPUS, SWEENEY HALL ANALYSIS & UPGRADE

CONCORD NH

DATE: 08–14–2019		DRAWN BY:	BLN
SCALE: AS NOTED		CHECKED BY:	JDV
NHTI - CONCORD'S COMMUNITY COLLEGE 31 COLLEGE DRIVE CONCORD, NEW HAMPSHIRE 03301		DRWG. NO. 4 OF 4	M7.1

Date: 09/17/2019–11:08, Dwg: 19016ME M5.1.DWG, Tab: M7.1, User: Bnelson