



# **BID PACKAGE**

## **PART IV**

### **SPECIFICATIONS**

**DMH Project# 2018 - 006 R  
Makeup/Air Handling Units  
Recommissioning – Penthouse –  
*REVISED SCOPE*  
167 Lyman Street  
Westborough, Massachusetts 01581**

**THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF HUMAN SERVICES  
DEPARTMENT OF MENTAL HEALTH**

**S P E C I F I C A T I O N S**

**FOR**

**HADLEY BUILDING MAKE-UP AIR HANDLING UNIT  
RECOMMISSIONING--PENTHOUSE  
*REVISED SCOPE***

**AT**

**HADLEY BUILDING  
167 LYMAN STREET  
WESTBOROUGH, MA 01581**

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**PROJECT NO. 2018 - 006 R**  
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**DEPARTMENT OF MENTAL HEALTH  
OFFICE OF ENGINEERING AND FACILITIES MANAGEMENT  
167 LYMAN STREET  
WESTBOROUGH, MASSACHUSETTS 01581**

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**MARCH 21, 2018**

**HADLEY BUILDING MAKE-UP AIR HANDLING UNIT  
RECOMMISSIONING--PENTHOUSE**

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# **HADLEY BUILDING MAKE-UP AIR HANDLING UNIT RECOMMISSIONING--PENTHOUSE**

## **SECTION 01010 SUMMARY OF WORK**

### **PART 1 - GENERAL**

#### **1.01 GENERAL PROVISIONS**

Equality of material, article, assembly or system other than those named or described in this Section shall be DMH determined in accordance with the provisions of the CONTRACT AND GENERAL CONDITIONS.

#### **1.02 RELATED DOCUMENTS**

Any Drawings or General Provisions of the Contract, including General and Supplementary Conditions and other Division 1 Sections, apply to Work of this Project and each Specifications Section along with discussions during the Mandatory Walk Through.

#### **1.04 WORK UNDER THIS CONTRACT**

The work to be done under this contract consists of executing and completing all work specified or required for the successful renovation and recommissioning of the Hadley Make-Up Air Unit at 167 Lyman Street, Westborough, Ma. The owner of this building is the Commonwealth of Massachusetts, under the care and custody of the Department of Mental Health (DMH). All work shall be performed under specified guidelines as required by DMH and the applicable Mass. State Building Codes.

The scope of work, without limiting the generality thereof, includes:

##### **A. HVAC - CONTROLS UPGRADE FOR PENTHOUSE AIR HANDLER UNIT**

1. Furnish and Install one(1) Johnson Controls Facility Explorer Programmable Controller model FX-PCG-2611 DDC BACnet Controller to monitor and control the existing Penthouse make-up air handler unit. Mount controller in new control panel with DDC controller, power supply ( 120V, 50 VA ), and I/O wiring on penthouse wall after removing electrical supplying exhaust fans to be removed.
2. Provide local CO2 and Temperature sensor (in 4<sup>th</sup> Floor West Hallway-50ft.down corridor), outside air temperature sensor with sun shield through penthouse wall, and discharge air temperature sensor in supply air duct. ALL sensors to be wired back to the new programmable controller.
3. .Furnish and Install air intake damper motor and damper blade (tight sealing). Position to be per programmable controller settings.
4. Furnish and Install all wiring from control panel to all end devices specified.

## **HADLEY BUILDING MAKE-UP AIR HANDLING UNIT RECOMMISSIONING--PENTHOUSE**

### **1.04    WORK UNDER THIS CONTRACT (Cont'd.)**

5. Disconnect and remove existing abandoned electrical and mechanical devices (exhaust fans and accessories) on the West Penthouse floor and wall for mounting new Control Panel and installing new boiler.
6. Connect existing 120 volt power in the penthouse to the new Control Panel.
7. Furnish an As-Built wiring diagram for new equipment installed.
8. Furnish and Install a new 2 HP Variable Frequency Drive (VFD) replacing the existing make-up air handler fan motor. Remove existing motor starter and wire to new VFD Drive motor.
9. Install/Wire BAC net communications bus from the new control panel (in penthouse) down to the existing Control Panel in the Basement.

### **B.    HVAC-NEW BOILER AND PIPING FOR HOT WATER TO THE AIR HANDLER:**

1. Furnish and Install one (1) Weil McLain natural gas fired hot water boiler Model UG-299 and shall be located in the penthouse.
2. Contractor to demolish and remove two small exhaust fans in the penthouse adjacent to the air handler unit to make room for the new boiler.
3. The supply and exhaust flues shall be 4" diameter and go out of the penthouse through the sidewall exhaust grille left from removal of one of the exhaust fans. Contractor shall include all hot water piping to/from the boiler to the air handler heating coil piping. All piping to be fiberglass insulated 2" thick per code.
4. Boiler shall sit in a safety pan and be piped out to the roof through the sidewall.
5. Feed water to the boiler shall be 1" copper and run from the 4<sup>th</sup> floor up to the penthouse. Boiler to air handler coil loop to be protected with glycol for freeze protection and back flow preventer to be installed on the feed water to boiler line.
6. Contractor to run natural gas piping from ground level at the gas meter up to the penthouse and connect to the new boiler. Contractor shall work with the Gas Company and DMH Project Engineer to accomplish this scope of work.
7. The Plumbing and the Controls Contractors shall work in cooperation with one another.

# **HADLEY BUILDING MAKE-UP AIR HANDLING UNIT RECOMMISSIONING--PENTHOUSE**

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## **1.05     EXAMINATION OF SITE AND DOCUMENTS**

- A. Bidders shall be required to attend a Mandatory Pre-Bid Conference to visually inspect the location of the work and existing conditions that may affect new work.
- B. The bidders are expected to examine and to be thoroughly familiar with all contract documents and with the conditions under the work to be carried out. By submitting a bid, the bidder agrees and warrants that he has had the opportunity to examine the site and the contract documents, that he is familiar with the conditions and requirements.
- C. Failure of any bidder to visit the site and fully inform himself of all bidding documents, applicable laws, ordinances and regulations, including civil rights laws, American's with Disabilities Act, etc., shall in no way relieve the Bidder from any obligation with respect to his bid.

## **1.06     CONTRACT METHOD**

Work under this contract shall be one lump sum including price to include all work specified. There are no filed sub-bids.

## **1.07     WORK SEQUENCE**

- A. The duration of work shall not exceed that as set forth in the GENERAL CONDITIONS.
- B. Work sequence shall be generated by General Contractor for approval by designer and DMH at the pre-construction conference.
- C. **WORKING HOURS:** All work under this contract shall be performed during the normal working hours of 7:00 AM and 4:00 PM, Monday through Friday. Contractor shall apply to the owner for any working hours other than normal hours of work for approval. **Any additional cost incurred from working during above mentioned hours or non specified hours shall be absorbed by the Contractor.**

## **1.08     SUPERVISION OF WORK**

- A. The Contractor shall be held directly responsible for the correct installation of all work performed under this Contract. He must make good repair, without expense to the Commonwealth, of any part of the work which may become inoperative on account of leaving the work unprotected or unsupervised during construction of the system or which may break or give out in any manner by reason of poor workmanship, defective materials or any lack of space to allow for expansion and contraction of the work during the Contractor's warranty period, from date of final acceptance of the work by the
- B. The Contractor shall furnish a competent Massachusetts licensed superintendent satisfactory to the DMH and to the Designer, who shall supervise all work under this contract and who shall remain on duty at the site throughout the Contract period while work is in progress.

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## **HADLEY BUILDING MAKE-UP AIR HANDLING UNIT RECOMMISSIONING--PENTHOUSE**

### **1.09 AUTHORITY TO STOP WORK**

- A. The Owner, the Designer or their authorized representatives shall retain the right to stop work on the project when, in their judgment, the specifications, the manufacturer's requirements, drawings or similar requirements and conditions are not being fully complied with by the Contractors or subcontractors personnel under his supervision or control.
- B. No claims by the Contractor for additional compensation or extension of contract schedules shall be allowed due to a suspension of the work ordered by Owner or Engineer because of the Contractor's failure to comply with the Contract Documents.
- C. If work is suspended on the project due to the Contractor's failure to comply with the Contract Documents, the Contractor shall immediately take whatever measures are necessary to bring his work on the project into compliance and to resume work.
- D. If the Contractor neglects or refuses to bring his work into full compliance with the Contract Documents, the Owner shall retain the right to terminate the Contract under the provisions of the General Conditions and Supplementary General Conditions.

### **1.10 CONTRACTOR USE OF PREMISES**

#### **A. Use of the Site:**

- 1. Confine operations at the site to the areas permitted under the Contract, sub-basement and penthouse.
- 2. Portions of the site beyond area on which Work is indicated are not to be disturbed.
- 3. Conform to site rules and regulations affecting the work while engaged in project construction.
- 4. All work shall be scheduled between the hours as specified in Section 1.07C - Working Hours.
- 5. No shut down of any utility service shall be permitted during normal DMH. working hours which is normally limited to 7:00 AM and 4:00 PM. Any shut down of utility service and water supply beyond these hours shall take place only with the approval of DMH Project Engineer. A minimum of seventy two (72) hours advance notice will be required.
- 6. The Contractor shall pay all fees, charges and costs for permits, services or other requirements of, the Commonwealth Dept. of Public Safety , Town of Westborough or other governing authorities in connection with all work at the site.

## **HADLEY BUILDING MAKE-UP AIR HANDLING UNIT RECOMMISSIONING--PENTHOUSE**

### **1.11 MANUFACTURERS AND MATERIALS**

- A. Manufacturer names and model numbers referenced in this document are provided to establish design, quality and performance standards and are not intended to limit the contractor's right to submit for approval products, methods, and/or materials of equal design features and quality.
- B. All materials and equipment shall be new and of the best grade for the service intended.

### **1.12 REFERENCE STANDARDS**

- A. For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. The date of the standard is that in effect as of the bid date, except when a specific date is specified.

### **1.13 PRE-CONSTRUCTION CONFERENCE**

- A. In accordance with the CONTRACT AND GENERAL CONDITIONS preconstruction conference to review the work will be conducted by DMH..
- B. Representatives of the following shall be required to attend this conference:
  - 1. DMH (Owner)
  - 2. General Contractor
- C. The contractor shall have a responsible representative at the pre-construction conference to be called by the Commonwealth following the award of the contract, as well as major subcontractors. All such representatives shall have authority to act for their respective firms.

### **1.14 PROJECT MEETINGS**

- A. Project meetings shall be held on an as required basis, subject to the discretion of the DMHs Project Engineer.
- B. As a prerequisite for monthly payments, a Schedule of Values, ordering schedules, shop drawing schedules, and coordination meeting schedules shall be prepared and maintained by the Contractor and shall be revised and updated on a monthly basis, and a copy shall be submitted to the DMH Project Manager and the Designer.



## **HADLEY BUILDING MAKE-UP AIR HANDLING UNIT RECOMMISSIONING--PENTHOUSE**

### **1.15 PERMITS, INSPECTIONS AND TESTING REQUIRED BY GOVERNING AUTHORITIES**

- A. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, require any portion of the Work to be inspected, tested or approved, the General Contractor shall give the Designer and such authority timely notice of its readiness so that the Designer may observe such inspection and testing.
- B. Prior to the start of construction, the General Contractor shall complete application to the applicable Building Code enforcement authority for a Building Permit. Such Permit shall be displayed in a conspicuous location at the project site.
- C. **COORDINATION WITH UTILITIES**  
The Contractor shall coordinate and execute his work to meet the requirements of State Building Inspector, State Plumbing Inspector, State or Local Westborough Electrical Inspector, and all utility companies( GAS CO --.NSTAR ) or involved in or affected by the Project's work, including but not limited to water, sewer, electric, gas and telephone.
- D. Provide DMH with copies of all permits and licenses required by the contract documents.

### **1.16 CUTTING, CORING AND PATCHING, UNLESS OTHERWISE INDICATED**

All necessary cutting and patching to fit together properly the several parts of the work shall be done by the General Contractor, except as may be specially noted otherwise under any particular section of the specifications.

## **HADLEY BUILDING MAKE-UP AIR HANDLING UNIT RECOMMISSIONING--PENTHOUSE**

### **1.17 EXECUTION OF WORK**

When specified requirements regarding execution of the work are given in a Specification Section, those requirements are understood to be in addition to the general requirements regarding execution which are given here. The general requirements regarding execution are applicable to all parts of the Project's work, whether on-site or in the place of manufacture.

The general requirements on execution of the work are:

1. All work shall be executed such that the completed construction meets all the requirements of governing codes, regulations and contract documents.
2. All work shall be executed in strict accord with the published requirements and recommendations of the industry and/or manufacturer's associations or institute which promulgate standards of quality for the work of that industry.
3. All work shall be executed in strict accord with the manufacturer's requirements for fabrication, installation, fit-up, protection, cleaning, adjusting and any other construction activity required to complete the work correctly.
4. All work shall be executed by workmen knowledgeable and skilled in the trade(s) necessary to execute the work properly and completely.

### **1.18 DEBRIS REMOVAL**

- A. The Contractor shall remove all debris from the job site on a daily basis.
- B. Debris shall be legally disposed of in a D.E.P. approved landfill. The landfill to be used shall be submitted to D.M.H. prior to start of construction. All required dumping permits shall be obtained prior to start of construction. Contractor shall submit receipts from landfill as evidence of legal disposal.

### **1.19 FIELD MEASUREMENTS**

Although care has been taken to ensure their accuracy, the dimensions shown for existing items and structures are not guaranteed. It is the responsibility of the General Contractor to verify these dimensions in the field before fabricating any construction component. No claims for extra payment due to incorrect dimensions will be considered by the Commonwealth.

## **HADLEY BUILDING MAKE-UP AIR HANDLING UNIT RECOMMISSIONING--PENTHOUSE**

### **1.20     SAFETY REGULATIONS**

- A.     This project is subject to compliance with Public Law 91-596 "Occupational Safety and Health Act" - latest edition (OSHA), with respect to all rules and regulations pertaining to construction, including Volume 36, numbers 75 and 105, of the Federal Register, as amended, and as published by the U.S. Department of Labor. The Contractor, his employees, subcontractors and suppliers shall at all times comply with the provisions stated in these regulations. OSHA 10 cards are required for all workers.
- B.     The Contractor shall at all times comply with all other health and safety requirements issued by federal, state, county and municipal authorities.
- C.     Contractor shall maintain all tools and equipment in a safe, clean, working condition. Broken, unsafe or damaged equipment shall be immediately removed from the site.
- D.     Contractor shall maintain in all Work Areas and at all times, a complete OSHA approved first aid kit. The first aid kit shall be checked and restocked each day as required. The kit shall include supplies for emergency eye washing and for emergency burn treatment. It shall be the Contractor's responsibility to provide an adequate number of first aid kits to suit the project conditions.
- E.     Contractor shall have, at all times, a minimum of one person properly trained in first aid techniques on the project site.

### **1.21     DAMAGE RESPONSIBILITY**

The Contractor shall repair, at no cost to the Owner, any damage to building elements, site appurtenances, landscaping, utilities, etc. caused during demolition operation and work of this contract.

### **1.22     SALES TAX/WAGE RATES**

- A.     This project is exempt from payment of state sales tax. Refer to Article VII in the Contract and General Conditions for tax exemption number.
- B.     Wages must be paid in accordance with the **Prevailing Wage Rate Schedule** contained in the Contract.
- C.     Contractor shall be responsible for submitting weekly payroll reports for his Employees and those of all Sub Contractors. Reports should be submitted to D.M.H. Project Engineer each Week.

## **HADLEY BUILDING MAKE-UP AIR HANDLING UNIT RECOMMISSIONING--PENTHOUSE**

### **1.23    WARRANTEES**

Warrantees must be provided for all products supplied for this project. Refer to individual sections for additional requirements.

### **1.24    PROSECUTION OF WORK**

1.     The Contractor shall be required to work in close cooperation with the Facility Authorities in order to determine the schedule of work which will cause the least inconvenience to the facility and staff.
2.     At the completion of day's work, Contractor shall protect all openings to prevent exposure to the elements. In addition, the Contractor shall ensure that all means of egress required by Code are maintained fully accessible and that no unsafe conditions are left exposed at the end of the workday.
3.     The HVAC AIR HANDLER work shall be done only on weekdays during **7:00 a.m. to 4:00 p.m.** unless otherwise approved by Project Engineer. The Contractor shall price their bids on the basis of the above information. No overtime or extra payment shall be admissible on this account.
4.     The repair work initiated by the Contractor at any location on any day shall be completed before the end of the same day and shall not be left incomplete or unfinished.
5.     The buildings shall remain fully operational during the construction period.

### **1.25    PREPARATION OF SITE**

1.     The Contractor shall confine his equipment and materials to the area of the work and such storage areas as are designated by the Project Manager.
2.     Provide covered dumpster at the site during the period of construction.
3.     Prior to commencement of the work the Contractor shall examine the site to determine existing conditions and shall be solely responsible for all field measurements necessary to complete the project scope of work.

## **HADLEY BUILDING MAKE-UP AIR HANDLING UNIT RECOMMISSIONING--PENTHOUSE**

### **1.26 DUST CONTROL/NOISE CONTROL**

Contractor shall provide adequate means for the purpose of preventing dust caused by construction operations throughout the period of the construction contract. Develop and maintain a noise abatement program and enforce strict discipline over all personnel to keep noise to a minimum.

### **1.27 SHOP DRAWINGS**

The Contractor shall submit to the DMH Project Engineer for approval, five (5) copies of material specifications for all system components and other material as required under the Specifications. The material specifications and/or shop drawings shall be complete with all required dimensions and detail information shall be checked by the Contractor and so stamped by him prior to submittal. All shop drawings shall be submitted together. The Contractor shall make any and all corrections required by the Engineer. The approval of such materials will be based on manufacturer's published date. Approval of the material specifications shall not be construed as a complete check, but will indicate only that the method of construction and detail is satisfactory. Approval of such material specifications will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor shall be responsible for all the dimensions and design of adequate connections, details and satisfactory construction of all work. Materials fabricated or delivered to the site before the approved shop drawings on materials Specifications have been returned to the Contractor will be subject to rejection by the Department Engineer. Shop drawings shall be submitted for all components described in these Specifications. The Contractor shall identify the quantities and locations of all material to be furnished in his submittal package to include but not be limited to the following:

1. New Boiler
2. Hot Water and Natural Gas Piping and Valves
3. Supply and Exhaust Air Duct to New Boiler
4. Miscellaneous Electrical Supplies , VFD's, ect.
5. System temperature sensors, control valves
6. Damper motors (outside air dampers)

## **HADLEY BUILDING MAKE-UP AIR HANDLING UNIT RECOMMISSIONING--PENTHOUSE**

### **1.28 QUALIFICATION OF THE CONTRACTOR**

The Contractor shall be a recognized specialist in the field of installation of HVAC and have been performing the class of work required under these Specifications on a regular basis. Contractor must review and meet required conditions set forth in the Project Bid Documents.

### **1.29 SAFETY PRECAUTIONS**

Furnish, place and maintain proper guards for the prevention of the accidents and other necessary construction required to secure the safety of life and property. All employees Working on project MUST have an OSHA 10 Safety Training card.

### **1.30 GUARANTEE**

The Contractor shall guarantee all labor and materials furnished by them for a period of **ONE (1) YEAR** from date of acceptance, unless a longer guarantee is specified elsewhere, and agrees to repair, free of expense to the Commonwealth of Massachusetts, any defects that may occur within that time.

### **1.31 EXAMINATION**

Prior to submitting his bid, each bidder will be held to have examined the site and satisfied himself as to the character and amount of work to be done and procedure set forth in this contract. Questions about design may be directed to Gerald McCullough at (508) 616-2248.  
**ATTENDANCE AT MANDATORY PRE-BID CONFERENCE ON Wednesday, January 31, AT 10:00 A.M. IS REQUIRED AS ALL EXISTING SITE CONDITIONS CANNOT BE FULLY DESCRIBED IN THE SPECIFICATIONS.**

### **1.32 BID PROCEDURE**

A. Bidders are required to submit bids on the enclosed proposal form for the following:

- .1 **Base Bid** - For all work as enumerated in specifications and as discussed during the Mandatory Walk Through

**END OF SECTION**