USC Sumter Student Union Mechanical Maintenance Renovation State Project H39-I322

#### Addendum One

#### September 16, 2020

The following items add to, modify, clarify or otherwise alter the Drawings and/ or specifications and will be a part of the Contract Documents. Where a portion of the Drawings and/or specification is added to, modified or otherwise altered, the portion not so affected shall remain. Bidder shall include all effects that these items may have on this proposal.

Acknowledge receipt of this Addendum in the space provided in the Bid Form. Failure to do so may subject Bidder to disqualification.

#### Clarifications

#### Item No. Description

- 1. <u>Clarification:</u> The existing roof does not carry a warranty. Any licensed roofing contractor can provide services to the bidding contractor for the roofing work.
- 2. <u>Clarification:</u> The 90 days project duration starts on the date of commencement of the work. Mobilization, shipping and material lead times are not included in the 90 days.
- 3. <u>Clarification:</u> If an additional site visit is required prior to the bid date, contact Bill Livingston at <u>bill@swygert-associates.com</u> or (803) 237-2189.
- 4. <u>Clarification:</u> The ductwork in the Food Court 115 should be completed at the beginning of the project and finished as soon as possible to allow the food service to be operational again.
- 5. <u>Clarification:</u> The area of work will be vacated during construction. The Dining 120 and Bookstore 102 will remain open.
- 6. <u>Clarification:</u> The Asbestos Abatement Guidelines has been provided for information only. Abatement work shall be provided by USC outside of the Contractor's scope of work. It shall be the Contractor's responsibility to coordinate and identify the extent of demolition and remove ceiling as required prior to abatement.

#### Drawings

#### Item No. Description

1. <u>Revision:</u> Refere Drawing MD1 Demolition Floor Plan. When AHU is removed hot water and chilled water piping shall only be removed to the control valve and bypass. Control valve shall be set and locked in the bypass position to allow for full flow at the boiler and chiller.

- 2. <u>Revision:</u> Reference Drawing M1 Renovation Floor Plan. Delete TWU-1 from the project scope.
- 3. <u>Revision:</u> Reference Drawing M1 Renovation Floor Plan. Change Storage 130A to Key Shop 130A. Add supply diffuser and return grille to Key Shop 130A.
- 4. <u>Revision:</u> Reference Drawing E2 First Floor Demolition Plan. Add Note 6 that reads, "In Corridors H103 and H104, Storage 108 and 107B. where acoustical ceilings will be replaced as a part of this renovation, temporarily support lighting fixtures, speakers, detectors, exit signs, etc. during renovation and re-install in new ceiling. Protect these during renovation. Replace any damaged fixtures and devices."

#### **Specifications**

- Item No. Description
- 1. <u>Revision:</u> Reference Specification Section 230010 General Provisions HVAC. The following manufacturers have been added to the prior approved list:

Unitary Air Conditioning Units: Tempmaster, Lennox Variable Air Volume Boxes: Tuttle and Bailey

#### END OF ADDENDUM

Attachments:

Pre-Bid Sign In Sheet M1-R1 M4-R1 Asbestos Abatement Guidelines

#### University of South Carolina Pre Bid Attendee List Sumter, SC

Project Name: Project Number: Pre Bid Date & Time: UofSC Sumter Student Union Mechanical Maintenance Renovation Project H39-I322/50003328-2 September 9, 2020-Pre Bid Conf 10AM; Site Visit 11AM

| SWMBE<br>Contractor? | Name             | Company Name                                | Address | Phone #       | Email                          |
|----------------------|------------------|---|---------|---------------|--------------------------------|
| SWMBE                | Theresa Doster   | McCarter Mechanical, Inc.                   |         | 864.301.8502  | theresa@mccartermechanical.com |
| S <u>w</u> m b e     | Dusty Moody      | Sothern Atlantic Mechanical<br>Company(SAM) |         | 803.397.0878  | dmoody@samcosc.com             |
| S <u>W</u> М В Е     | Joe McMahan      | McCarter Mechanical, Inc.                   |         | 864.301.8507  | joe@mccartermechanical.com     |
| S <u>W</u> MBE       | Hennie Van Bulck | UofSC Sumter                                |         | 803.983.37743 | vanbulck@uscsumter.edu         |
| S <u>w</u> m b e     | Mike Sonntag     | UofSC Sumter                                |         | 803.468.4158  | sonntagm@uscsumter.edu         |
| SWMBE                | Bill Livingston  | Swygert & Associates                        |         | 803.791.9300  | bill@swygert-associates.com    |
| SWMBE                | Aimee B. Rish    | UofSC Construction Procurement              |         | 803.777.2261  | arish@fmc.sc.edu               |
| SWMBE                | Pete Fisher      | UofSC Planning, Design &<br>Construction    |         | 803.777.9396  | pfisher@fmc.sc.edu             |

\*\*\*\*By signing this sheet you agree to receive information electronically.





| VARIABLE VOLUME BOX SCHEDULE   |                |              |         |         |         |     |        |             |         |  |  |
|--|----------------|--------------|---------|---------|---------|-----|--------|-------------|---------|--|--|
| TAO  | TRANE<br>MODEL | AIR INLET    | COOLING |         | HEATING |     |        | MAX. A.P.D. |         |  |  |
| TAG  |                | INCHES       | MAX CFM | MIN CFM | CFM     | KW  | STAGES | IN. W.C.    | REMARKS |  |  |
| 1–1  | VCEF           | 12           | 2,000   | 600     | 630     | 9.0 | 2      | 0.08        | 1,2,3   |  |  |
| 1–2  | VCEF           | 12           | 1,600   | 480     | 525     | 6.5 | 2      | 0.05        | 1,2,3   |  |  |
| 1–3  | VCEF           | 12           | 2,000   | 600     | 630     | 1.0 | 2      | 0.08        | 1,2,3   |  |  |
| 1-4  | VCEF           | 6            | 400     | 120     | 170     | 2.0 | 1      | 0.14        | 1,2,3   |  |  |
| 1–5  | VCEF           | 6            | 300     | 100     | 100     | 1.0 | 1      | 0.02        | 1,2,3   |  |  |
| 1-6  | VCEF           | <sup>6</sup> | 300     | 100     | 170     | 2.0 | 1      | 0.02        | 1,2,3   |  |  |
| 1–7  | VCEF           | 6 <u>/</u> 1 | 900     | 270     | 270     | 4.0 | 2      | 0.14        | 1,2,3   |  |  |
| 1–8  | VCEF           | 10           | ( 1,100 | 330     | 560     | 8.0 | 2      | 0.03        | 1,2,3   |  |  |
| 1. PROVIDE HEATING COIL ON BOX DISCHARGE WITH 4'-0" STRAIGHT PLENUM BEFORE FITTINGS OR TAKEOFFS. |                |              |         |         |         |     |        |             |         |  |  |

PROVIDE 1" FOIL FACED INSULATION, LINE FUSE, AND DOOR INTERLOCKING DISCONNECT SWITCH.
 CONTROLS SHALL BE PROVIDED BY THE CONTROL CONTRACTOR AND FACTORY MOUNTED.

| ROOFTOP VARIABLE AIR VOLUME UNIT SCHEDULE  |           |                |          |     |         |         |     |          |                 |           |      |           |         |
|--|-----------|----------------|----------|-----|---------|---------|-----|----------|-----------------|-----------|------|-----------|---------|
|  |           | SUF            | PPLY FAN | ٧   | EXH     | AUST FA |     |          | DX NET COOLING  |           |      |           |         |
| TAG  | MODEL NO. | AIRFLOW        | ESP      | FAN | AIRFLOW | ESP     | FAN | AIR-CFM  | CAPACITY @ 95'F |           | EER  | HEAT - KW | REMARKS |
|  |           | CFM IN. WG H.P | H.P.     | CFM | IN. WG  | H.P.    |     | EA DB/WB | LA BD/WB        |           |      |           |         |
| rtu-1  | TED330    | 8,900          | 2.2      | 10  | 3,000   | 0.5     | 1   | 1,200    | 81.8/68.7       | 59.5/57.5 | 11.0 | 36        | 1-7     |
| <ol> <li>PROVIDE WITH CERTIFIED SEISMIC CURB, INTERNAL VIBRATION ISOLATION, ECONOMIZER, EXHAUST FAN WITH STATIC TRAC, VARIABLE<br/>FREQUENCY DRIVE ON SUPPLY FAN, ABD SHAFT GROUNDING RING.</li> <li>PROVIDE MICROPROCESSOR CONTROLS TO OPERATE THE UNIT WHEN INSTRUCTED BY THE EMS. PROVIDE STAND ALONE CONTROLS<br/>INCLUDING DISCHARGE TEMPERATURE AND DUCT STATIC PRESSURE SENSORS. UNIT SHALL INCLUDE AUXILIARY CONTACTS FOR START</li> </ol> |           |                |          |     |         |         |     |          |                 |           |      |           |         |

AND STOP CONTROL FROM BUILDING MANAGEMENT SYSTEM. PROVIDE BACNET INTERFACE MODULE TO INTERFACE WITH OWNER'S EXISTING BUILDING MANAGEMENT SYSTEM. 4. PROVIDE STAINLESS STEEL CONDENSATE DRAIN PAN. INSTALL DUCT SMOKE DETECTORS IN RETURN WIRED TO SHUT DOWN THE UNIT.
 PROVIDE 1 YEAR PARTS AND LABOR WARRANTY AND 5 YEAR COMPRESSOR WARRANTY. 7. PROVIDE FACTORY STARTUP.

| TAG                | DESCRIPTION        |
|--------------------|--------------------|
| $\textcircled{\ }$ | UNI-FLOW SUPPLY    |
| B                  | UNI-FLOW SUPPLY    |
| Ô                  | UNI-FLOW SUPPLY    |
| D                  | UNI-FLOW SUPPLY    |
| Ē                  | PERFORATED RETURN  |
| 1.                 | PROVIDE WITH STAND |

| AIR D        | ISTRIB | UTION  | SCHEE   | OULE      |           |        |         |
|--------------|--------|--------|---------|-----------|-----------|--------|---------|
| MANUFACTURER | MODEL  | FRAME  | CFM     | NECK SIZE | FACE SIZE | MAX NC | REMARKS |
| PRICE        | ASPD   | LAY-IN | 0–125   | 6ø        | 24x24     | 25     | 1,2     |
| PRICE        | ASPD   | LAY-IN | 126-250 | 8ø        | 24x24     | 25     | 1,2     |
| PRICE        | ASPD   | LAY-IN | 251-350 | 10ø       | 24x24     | 25     | 1,2     |
| PRICE        | ASPD   | LAY-IN | 351-450 | 12ø       | 24x24     | 25     | 1,2     |
| PRICE        | APDDR  | LAY-IN | 0-1000  | 22x22     | 24x24     | 25     | 1,2     |

1. PROVIDE WITH STANDARD WHITE FINISH. 2. PROVIDE ALUMINUM OR ALUMINIZED STEEL CONSTRUCTION.

| EXHAUST FAN SCHEDULE   |                        |         |     |       |                  |                 |         |  |  |  |
|--|------------------------|---------|-----|-------|------------------|-----------------|---------|--|--|--|
| TAG  | GREENHECK<br>MODEL NO. | TYPE    | CFM | ESP   | MOTOR<br>H.P./W. | SONES<br>(MAX.) | REMARKS |  |  |  |
| EF-1   | SP-A250                | CEILING | 210 | 0.375 | 83 W             | 3.8             | 1, 2    |  |  |  |
| EF-2   | SP-A250                | CEILING | 210 | 0.375 | 83 W             | 3.8             | 1, 2    |  |  |  |
| EF-3   | SP-A250                | CEILING | 210 | 0.375 | 83 W             | 3.8             | 1, 2    |  |  |  |
| EF-4   | SP-A250                | CEILING | 210 | 0.375 | 83 W             | 3.8             | 1, 2    |  |  |  |
| <ol> <li>PROVIDE WITH CEILING GRILLE, BACKDRAFT DAMPER, DISCONNECT SWITCH,<br/>AND SPEED CONTROL.</li> <li>INTERLOCK WITH LIGHT SWITCH, WIRED BY ELECTRICAL CONTRACTOR.</li> </ol> |                        |         |     |       |                  |                 |         |  |  |  |





Swygert & Associates

CONSULTING ENGINEERS

USC Sumter Student Union Building Mechanical Maintenance Renovations State Project No: H39-1322

### ASBESTOS ABATEMENT GUIDELINES

As a component to the planned mechanical renovations at the Student Union Building (SUB) located on the University of South Carolina's Sumter campus, abatement of asbestos containing materials (ACM) in the form of thermal systems insulation (TSI) will be required. The overall project scope is the replacement of the existing HVAC mechanical systems in portions of the SUB. Abatement activities will take place in various locations throughout the renovation areas. The abatement contractor (Contractor) shall be required to coordinate access to all areas where abatement is to occur, as well as the limits of the abatement with the Mechanical Contractor (GC) who will be working under a separate contract with the Owner. The Contractor shall be required to coordinate the abatement work with the GC to coincide with the mechanical renovations to be completed, and to ensure that all activities that will impact the existing ACM associated with the mechanical systems are completed by the Contractor.

The planned renovations include the removal and replacement of various components of the original HVAC mechanical systems that currently remain in the building. To complete the renovations limited selective demolition will be required. Removal and replacement of the existing suspended ceiling systems will be required to accommodate the removal of larger duct sections in the main corridor, however, in most areas where abatement is to occur, the Contractor will be required to complete the abatement with the existing suspended ceiling grid remaining in place. The Contractor will need to complete the abatement working around the existing ceiling grid and will be required to maintain the ceiling grid in good condition for reuse after the renovations. The Contractor shall be responsible for damages to the ceiling grid.

Initial demolition of the existing suspended ceilings in the main corridor, removal of ceiling panels where ceiling grid is to remain, and installation of new suspended ceilings and replacement ceiling tiles at completion of the abatement activities shall be handled by the GC. In addition, demolition of the existing mechanical equipment (ductwork, fan coils, etc.) located above the suspended ceilings will be completed by the GC after all ACM and associated fiberglass insulation has been removed. Demolition of mechanical systems piping found in mechanical rooms will be removed and disposed of by the Contractor. In some areas where existing suspended ceilings are to remain, the Contractor will be required to abate ACM with the suspended ceilings in place. Mechanical systems piping in areas where ceilings will not to be removed will be abandoned in place. Contractor shall refer to the mechanical plans prepared by Swygert & Associated for locations and limits of the proposed project. The following are ACM materials and estimated quantities to be abated:

- Black Mastic on seams of fiberglass insulation on mechanical systems piping Est. ~500 SF
- Black mastic on seams of fiberglass insulation on mechanical systems ductwork Est. ~500 SF
- Black mastic coated cellular foam glass insulated chilled/ hot water lines Est. ~50 LF
- Mudded fittings on elbows and joints of mechanical systems piping Est. ~10 fittings
- Gasketing material between metal sections of air handler in mechanical room Est. ~20 LF
- Roof flashing and associated silver coating Est. ~50 SF

The following performance guidelines are provided to the Contractor to establish minimum standards and compliance. Furthermore, if any of the guidelines need to be altered, all parties involved should be consulted and must consent to such changes. Should there be any difference between the requirements specified within these guidelines and the regulations, the regulations shall take precedence.

**Abatement Preparation** - Contractor shall cordon off areas where the abatement is to take place. Only personnel authorized and certified to enter the work area shall be allowed to enter during the abatement activities through to a completed and passed visual inspection and/ or clearance of each work area. Contractor shall prepare and remove all designated ACM using acceptable removal methods in accordance with the SCDHEC regulations. ACM shall be removed from all mechanical systems piping and ductwork that the GC will impact during the removal and reinstallation of the new mechanical systems. All areas shall be wet wiped to remove loose ACM, dirt and debris. Once gross abatement of TSI within the areas of the renovation is complete, Contractor shall inspect sections of the mechanical systems piping and ductwork to remain for residual ACM and ACM contamination. Special attention shall be placed on fittings and joints of mechanical systems piping. All affected areas shall be cleaned, to include HEPA vacuuming and wet wiping, to ensure that no asbestos-fibers remain in this space.

Limits of Removal of Asbestos-Containing Materials - GC shall coordinate with the Contractor to designate the limits and locations of the ACM to be abated. All ACM associated with the existing mechanical systems is to be abated as a component of the renovations. All fiberglass insulation on piping and ductwork associated with the existing mechanical systems to be impacted shall be disposed of along with the ACM waste as ACM. Additionally, Contractor shall be responsible to clean loose ACM, contaminated dirt and debris within these limits and dispose of as ACM. Contractor shall utilize appropriate wet methods during removal/ clean-up activities.

Limits of Roof Abatement Activities – The renovation includes the penetrations through the existing roofing system and removal and installation of various mechanical systems (HVAC units, vents, etc.) found on the roof of the SUB. Existing flashing materials (felt, mastics etc.) and an associated silver coating found on seams of flashing associated with the existing roof are ACM. In locations where flashing cannot remain without the ACM being impacted during the installation of new mechanical systems the Contractor shall abate the flashing in its entirety and will require put back of new flashing by the GC. Existing mechanical systems to be removed shall be cleaned of residual ACM prior to disposal, or the whole component shall be disposed of as ACM. The Contractor shall coordinate with the GC the limits of work and locations where ACM is to be abated on the roof of the SUB and shall ensure that all renovation activities that will impact ACM will be performed by the Contractor. Contractor shall utilize appropriate outdoor removal methods during ACM removal activities associated with the building's existing roof flashing.

**Limits of Demolition of Existing Mechanical Systems and Suspended Ceilings** – The GC and Contractor shall coordinate the limits of abatement and renovation work that requires removal of existing mechanical systems piping and ductwork. Contractor shall coordinate with GC regarding specific requirements relative to each abatement task (i.e. limits of demolition) to complete the planned renovations. The GC shall be responsible for removal of existing suspended ceilings as necessary to



complete the planned renovations prior to start of the Contractor's abatement activities. Contractor shall be prepared to abate all ACM materials found associated with the existing mechanical systems to be impacted by the renovations. In addition to the abatement of ACM in areas where suspended ceilings are removed, the Contractor shall remove existing HVAC mechanical systems piping. At the completion of the abatement the GC will remove HVAC ductwork. Existing piping and ductwork no longer in service, in areas where suspended ceilings are to remain, will be abandoned in place. Methods for termination of mechanical systems (i.e. cutting and capping methods, etc.) in areas where new systems will tie into existing systems and those abandoned in place will be coordinated between the GC and the Contractor, All ACM encountered shall be abated utilizing appropriate means and methods (i.e. friable or non-friable) and following regulatory requirements governing over the abatement activities.

**Abatement Clearance** - After ACM has been removed from the affected areas and final clean-up (i.e., wet wipe, HEPA vacuum) has been performed, Contractor shall coordinate with the University's Representative regarding final visual inspections and/or clearance sampling for friable abatement activities. Final clearance samples for friable abatement activities shall be collected and analyzed via phase contrast microscopy (PCM). In the event that clearance samples fail to meet the standard, Contractor shall return to the space to perform additional clean-up at no additional cost to the University. Non-friable abatement areas shall include a visual inspection at the completion of the abatement by the Owners Representative to confirm ACM has been removed as required.

Attachments:

Asbestos Abatement Plans AB-1 and AB-2

ACM Investigation Report Prepared by F&ME Consultants (Dated July 26, 2018)

LBP Investigation Report Prepared by F&ME Consultants (Dated July 26, 2018)





Approximate limits of suspended ceilings to be removed by GC

Contractor to coordinate with GC removal ACM black mastic associated with fiberglass duct wrap and fiberglass pipe insulation on various mechanical systems to be demolished by GC. Except were designated otherwise, the existing suspended ceiling grid to remain in place and shall not be damaged during abatement.



GENERAL NOTES:

- 1. Abatement Contractor (Contractor) shall be required to coordinate and sequence the abatement activities to coincide with the Mechanical Contractor (GC) completing the overall mechanical renovations for the Owner.
- 2. The GC and the Contractor will be working under a separate contracts with the Owner.
- 3. Prior to the start of abatement activities, the GC will be responsible for the demolition of the existing suspended ceiling system in the main corridor, and removal and of existing ceiling panels in designated areas where the ceiling grid is to remain in place.
- 4. The GC will be responsible for the demolition of the existing mechanical equipment unless otherwise noted.
- 5. Contractor is responsible for removal of ACM on seams of fiberglass duct wrap insulation and seams of fiberglass pipe insulation prior to GC demolishing mechanical equipment.

## GENERAL ABATEMENT NOTES:

- $\langle 3 \rangle$ handled by GC after abatement is complete.
- piping in mechanical room.

Existing HVAC ductwork and associated equipment to be removed by GC in designated areas. All ACM mastics  $\langle 1 \rangle$  on seams of fiberglass duct wrap as well as the associated fiberglass duct wrap shall be removed, and disposed of as ACM by Abatement Contractor prior to GC completing remaining demolition activities.

Existing mechanical systems piping associated with VAV's to be removed by the GC in designated areas . ACM  $\langle 2 \rangle$  mastics on seams of fiberglass insulation as well as the associated wrap shall be removed, and disposed of as ACM by Abatement Contractor prior to GC completing remaining demolition activities.

Existing air handler to be dismantled by Contractor only as needed to gain access to and remove ACM gasket material found between two large sections of air handler unit. Remaining demolition of existing air handler unit to

Contractor to remove all TSI on ductwork, piping and fittings in mechanical room. All debris and waste generated shall be removed, handled and disposed of as ACM. Contractor to remove and dispose of all mechanical systems





# GENERAL ABATEMENT NOTES:

- handled by GC after abatement is complete.
- piping in mechanical room.
- $\langle 6 \rangle$



Existing HVAC ductwork and associated equipment to be removed by GC in designated areas. All ACM mastics on seams of fiberglass duct wrap as well as the associated fiberglass duct wrap shall be removed, and disposed of as ACM by Abatement Contractor prior to GC completing remaining demolition activities.

Existing mechanical systems piping associated with VAV's to be removed by the GC in designated areas . ACM (2) mastics on seams of fiberglass insulation as well as the associated wrap shall be removed, and disposed of as ACM by Abatement Contractor prior to GC completing remaining demolition activities.

Existing air handler to be dismantled by Contractor only as needed to gain access to and remove ACM gasket  $\langle 3 \rangle$  material found between two large sections of air handler unit. Remaining demolition of existing air handler unit to

Contractor to remove all TSI on ductwork, piping and fittings in mechanical room. All debris and waste generated (4) shall be removed, handled and disposed of as ACM. Contractor to remove and dispose of all mechanical systems

Contractor shall disengage sections of ductwork, associated with existing air handler, that penetrate through existing ACM drywall walls and ceilings in space associated with existing air handler. Ductwork penetrating and abandoned in place shall be capped by the Contractor. Existing ACM drywall to remain.

Contractor shall coordinate with GC removal of existing roof mounted mechanical equipment. Contractor to remove ACM flashing and ACM silver coating on seams of flashing in designated areas.