

**ADDENDUM NO. 3, April 24, 2015**

**RE:** SBI-000320  
HVAC Retrofit Phase II  
Shelby County Criminal Justice Center  
201 Poplar Avenue  
Memphis, TN 38103  
PFI Project No. 24308.00

**FROM:** Pickering Firm, Inc.  
6775 Lenox Center Court, Suite 300  
Memphis, Tennessee 38115  
(901) 726-0810

**TO:** Prospective Bidders

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated April 10, 2015. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

This Addendum consists of 1 page with the following attachments:

- Specification Section 00 41 13 – BID FORM
- Specification Section 23 09 23 – TEMPERATURE CONTROLS
- Mechanical Sheet M-12P – THIRTEENTH FLOOR PLAN – HVAC DEMOLITION
- Mechanical Sheet M-13P – THIRTEENTH FLOOR PLAN – HVAC RENOVATION
- Electrical Sheet E-12P - THIRTEENTH FLOOR PLAN – ELECTRICAL

**CHANGES TO SPECIFICATIONS (PROJECT MANUAL):**

1. Replace Section 00 41 13 – BID FORM, in its entirety with the revised Bid Form attached to this addendum.
2. Replace Section 23 09 23 – TEMPERATURE CONTROLS, in its entirety with the revised specification attached to this addendum.
3. Refer to Specification Section 23 05 93 – BALANCING AND TESTING BY INDEPENDENT AGENCY.

A. Revise paragraph 3.1 AIR SYSTEM BALANCING to read as follows:

Perform operational testing of central station equipment including but not limited to, balancing of air distribution and exhaust systems, and adjustment of air terminal devices for HVAC systems which are installed or modified as part of the work on this Project, or as noted on the mechanical drawings.

- B. On page 3, Revise paragraph 3.1 Q. to read as follows:

Test and adjust each supply and return diffuser, grille, and register installed as part of the work on this project, or existing devices as noted on the drawings to within 5 percent below and 10 percent above design requirements.

- C. Revise paragraph 3.2 HYDRONIC SYSTEMS BALANCING to read as follows:

Perform flow testing of hydronic systems, adjust and record liquid flow at each piece of equipment, including but not limited to each hot water coil, chilled water coil, reheat coil, and pump installed or modified as part of the work on this Project, or as noted on the mechanical drawings.

#### **CHANGES TO MECHANICAL DRAWINGS:**

1. Refer to Drawing Sheet M-120B PARTIAL LOWER LEVEL FLOOR PLAN – AREA B HVAC DEMOLITION
  - A. Add the following Note No 1 to the bottom right hand corner of the page that reads as:
    1. BEFORE DEMOLITION BEGINS, TAB CONTRACTOR SHALL TAKE TRAVERSE READINGS OF SUPPLY, RETURN AND OUTSIDE AIR DUCTS TO AHU-7E AND AHU-7I WITH UNITS AT FULL CAPACITY. TAKE READINGS AS WELL FOR SUPPLY AND RETURN AIRFLOW TO EACH COURTROOM AREA SO THAT AIRFLOW CAN BE RESTORED TO CURRENTLY BALANCED SETTINGS. REPORT AND DISCUSS ALL FINDINGS TO ENGINEER FOR REVIEW AND FINAL BALANCING OF EACH SYSTEM.
2. Replace Sheet M-12P – THIRTEENTH FLOOR PLAN – HVAC DEMOLITION in its entirety with revised drawing attached to this addendum.
3. Replace Sheet M-13P – THIRTEENTH FLOOR PLAN – HVAC RENOVATION in its entirety with revised drawing attached to this addendum.
4. Refer to Drawings, Sheets M-120E, M-120T, M-126E, M-131C, & M-13P. Add the following note to each sheet: "Install the control dampers as shown on Sheets M-801 thru M-804. Coordinate damper locations with existing locations, and adjust for new AHU layout."
5. Refer to Drawings, Sheet M-120E Partial Lower Level Floor Plan Area E & F - HVAC Demo/Renovation: Add the following note at AHU-11B: "The control panel and disconnect switch for AHU-11B are both wall-mounted just south of the AHU."
6. Refer to Drawings, Sheet M-120T Partial Tunnel Level Floor Plans – Areas A, B, & E – HVAC Demo/Renovation. Add the following notes at AHU-9A, AHU-10A, and AHU-16B: "Provide hinged access door in the side of each AHU's return plenum for access to U.V. lights for replacement. Replace the U.V. lamps in each Lumalier U.V. lighting system with PL-L 16W TUV lamps."
7. Refer to Drawings, Sheet M-131C Partial 1<sup>st</sup> Floor Plan – Area C HVAC Renovation. Make the following modifications:
  - A. Add the following notes: "The temperature control panels for AHU-1A, 2A, 5A, and 8A are located in Room 1-26 with AHU-5A. The temperature control panel for AHU-21A is located in

the filing/ break room just south of the room containing AHU-21A. The new control panels for these AHU's shall be located at the same locations as the existing panels.

8. Refer to Drawings, Sheet M-136 Sixth Floor Plan – HVAC Renovation. Make the following modifications:
  - A. Add the following notes: "The temperature control panels for RTU-1, 2, 3, & 4 shall be located as shown in Keynote 5 on Sheet E-126."
9. Refer to Drawings, Sheet M-601 MECHANICAL SCHEDULES I. Add the following Remark in the "Air Handling Unit Schedule": "Belt drive service factor shall be 1.5 minimum. Belt drive fans in AHU's shall have a minimum of 2 belts, except for smaller fans where this is not a factory option."
10. Refer to Drawings, Sheet M-601 MECHANICAL SCHEDULES I. Make the following modifications to the "Rooftop Air Handling Unit Schedule":
  - A. Modify Remark No. 1 to require the following: Replace RTU vibration isolation rails. Offset the adapter curb to allow more clearance between RTU's. Modify RTU relief hoods as required for units to fit on existing curbs."
  - B. Add the following to Remark No. 2: "Outside air and relief air dampers shall be sized for a full flow economizer application. Belt drive service factor shall be 1.5 minimum. Belt drive fans in rooftop units shall have a minimum of 2 belts."
  - C. Add the following to Remark No. 3: "VFC's shall be provided with bypasses."
11. Refer to Drawings, Sheet M-601 MECHANICAL SCHEDULES I. Make the following modifications to the "Existing Built-Up Air Handling Unit Modification Schedule": Revise Remark No. 3 to read "The existing steam pre-heat coil shall remain in place. Clean the existing steam coil."
12. Refer to Drawings, Sheet M-602 MECHANICAL SCHEDULES II. Make the following modifications to the "Built-Up AHU Supply and Return Fan Schedule":
  - A. Revise the external static pressure for return fans VVRAF-1 thru VVRAF-6 from 0.8" w.c. to 0.85" w.c.
  - B. Revise the Model Number for return fans VVRAF-5 and VVRAF-6 to read 445-QMXHPD.
  - C. Revise the Model Number for supply fans VVSAF-1, VVSAF-2, VVSAF-3, and VVSAF-4 to read 490-QMXHP.
  - D. Revise the Model Number for supply fans VVSAF-5 and VVSAF-6 to read 490-QMXHP.
  - E. The title for the remarks below the schedule should be "SUPPLY AND RETURN FAN SCHEDULE" in lieu of "RETURN FAN SCHEDULE".
  - F. Add the following to Remark No. 1: "All return fans shall be direct drive."
  - G. Add the following to Remark No. 2: "All supply fans may be direct drive or belt drive. Belt drive service factor shall be 1.5 minimum. Belt drive fans shall have a minimum of 2 belts."
  - H. Revise Remark No. 4 to read as follows: "Provide fans with belt tunnel and guard, inlet piezometric ring, drain, aluminum wheel, spring isolators, fan inlet screens, & fan inlet

bellmouth fitting. For return fans, provide a fan outlet cone. Fan selections shall include additional static pressures for fan inlet effect and outlet cone, as this is not included in the scheduled external static pressures."

- I. Revise Remark 5 to read as follows: "Replace existing variable speed controllers for each supply and return fan. The return fans currently have variable frequency controllers sized to control both return fans in each AHU. This current setup shall be changed in this project so that each fan has its own VFC. Provide a variable frequency controller for each fan. VFC's shall be provided with bypasses."
13. Refer to Drawings, Sheet M-602 MECHANICAL SCHEDULES II. Add the following to the General Notes Note No. 1: "See Sheets M-801 thru M-804 for dampers to be replaced."
  14. Refer to Drawings, Sheet M-602 MECHANICAL SCHEDULES II. Add the following to the General Notes:
    - A. "13. CJC's existing dumpster may be used for construction debris, with the exception of AHU's, fans, coils, and other large items, which the contractor shall directly dispose of offsite."
    - B. "14. The Owner is not aware of asbestos containing materials in the CJC. If asbestos containing materials are suspected, the asbestos testing and removal will occur in a separate contract."
    - C. "15. Remove existing smoke detectors to be replaced. Install smoke detectors provided by Div. 26. Relocate as required for duct/AHU modifications."
  15. Refer to Drawings, Sheet M-701 MECHANICAL DETAILS. Make the following modifications to the sheet:
    - A. Delete the "Steam Heating Coil Piping at AHU 22A, AHU-23A, and AHU-24A" detail. The existing steam coils and their associated piping and valving shall remain in place.
    - B. In the "Hot Water Heating Coil Detail Piping at AHU's" detail, provide a 2-way control valve in lieu of a 3-way control valve. Delete the line size bypass piping at the valve.
  16. Refer to Drawings, Sheets M-801. Make the following modifications to the sheet:
    - A. Modify Note No. 2 in the "BMS Communications Riser" diagram to say that the building controller for the jail side of the building shall be located with the RTU control panels at the location shown by Keynote 5 on Sheet E-126.
    - B. Modify the thermostat note on the "VAV Terminal Units" detail to add the following sentence: "Twenty two (22) of the thermostats in dorm areas served by the RTU's shall be stainless steel plate type sensors with security screws. Setpoint adjustment for these sensors shall be thru the BMS."
  17. Refer to Drawings, Sheets M-801, M-802, & M-804. The control drawings on these sheets note "Existing smoke detector to remain. Relocate as required for duct/AHU modifications." Modify the notes to read "New smoke detector by Div. 26. Relocate from original smoke detector position as required for duct modifications."

18. Refer to Drawings, Sheets M-802, M-803, and M-804. Make the following modifications to the sheets:
- A. Sheet M-802, "Constant Volume Air Handling Units AHU-9A and 10A" detail. Revise the note at the supply air damper to read "Supply air damper and actuator by 230923."
  - B. Sheet M-803, Keynotes. Add the following sentence to Keynotes 17, 18, 19, & 20: ""Damper and Actuator by 230923."
  - C. Sheet M-804, "Constant Volume Air Handling Unit AHU-16B" detail. Revise the note at the supply air damper to read "Supply air damper and actuator by 230923."
19. Refer to Drawings, Sheet M-803. Make the following modifications to the sheet:
- A. Provide a fan vibration switch for each of the supply and return fans in AHU-22A, 23A, & 24A. Add to the sequence of operation that the vibration switch shall shut off its associated fan and notify the Owner when excessive vibration is seen.
  - B. The existing disconnect switches in the motor control center that serve the supply and return fans in AHU-22A, 23A, & 24A have auxiliary contacts with control wiring attached. These switches are being modified. Determine the function of the controls that use these contacts and maintain their current operation.
20. Refer to Drawings, Sheet M-804. Make the following modifications to the sheet:
- A. Delete the sequence of operation for the steam coils in AHU-22A, 23A, and 24A. The existing sequence of operation (if any) shall remain as is.
  - B. Add the following to the sequence of operation for AHU-22A, 23A, & 24A. Existing CO2 sensors in the return air streams shall remain in place and maintain their current operation. Note on the record control drawings the actual function of these CO2 sensors.
  - C. Add the following to the sequence of operation for AHU-22A, 23A, & 24A. "Verify and maintain existing sequences of operation with exhaust fans (F-26A and F-33A), recirculating fans (F-1 and F-2), and their associated existing pneumatic motorized dampers. Modify damper actuator settings in association with the T&B contractor to provide exhaust, recirculating, and minimum outside air airflows as measured and agreed upon during the project."
  - D. Add the following to the sequence of operation for AHU-22A, 23A, & 24A. "Reconnect existing controls to new chilled water pump contactors in the MCC."
  - E. Add the following to the sequence of operation for RTU-1, 2, 3, & 4: A disconnect switch with early break contacts for each supply and return fan motor is located at the RTU downstream of the VFC. Provide wiring from the disconnect switch to the VFC to shut off the VFC output before the disconnect switch de-energizes the fan motor.
21. Refer to Drawings, Sheet M-805. Add the following sentences to the sequence of operation for AHU-9A, AHU-10A, and AHU-16B: "Provide door interlock switches at the AHU access doors and interlock with the existing Lumalier U.V. lighting system to shut off the U.V. lights when an access door is opened."
22. Refer to Drawings, Sheet M-805. Add the following sentence to the sequence of operation for Rooftop Air Handling Units RTU-1, 2, 3, & 4, Item 11. "The RTU return fan shall be off."

**CHANGES TO ELECTRICAL DRAWINGS:**

1. Refer to Drawings, Sheet E-120E Partial Lower Level Floor Plan Area E & F – Electrical. Add the following note at AHU-11B: "The control panel and disconnect switch for AHU-11B are both wall-mounted just south of the AHU. Locate the disconnect switch on the wall in lieu of on the AHU."
2. Refer to Drawings, Sheet E-120T Partial Tunnel Level Floor Plans – Areas A, B, & E – Electrical. Add the following notes at AHU-9A, AHU-10A, and AHU-16B: "Disconnect existing Lumalier U.V. Lighting system and reconnect after installation in new return plenum."
3. Refer to Drawings, Sheet E-126 SIXTH FLOOR PLAN – ELECTRICAL. Make the following modifications to the sheet by adding the following sentences to Keynotes 6 and 8: "Disconnect switches shall be provided with early break contacts. The early break contacts shall be wired to the variable frequency controller to shut off the VFC before disconnecting the motor."
4. Replace Sheet E-12P THIRTEENTH FLOOR PLAN – ELECTRICAL in its entirety with revised drawing attached to this addendum.

**END OF ADDENDUM #3**