

ADDENDUM NO. 5

December 2, 2022

RE: Controls Upgrade Cradlerock ES / Lake Elkhorn MS (HCPSS Bid #020.23.B3)

FROM: Purchasing Office
Howard County Public Schools
10910 Clarksville Pike
Ellicott City, MD 21042
(410) 313-6723
(410) 313-6789 fax

TO: APPROVED PROSPECTIVE BIDDERS

This addendum forms a part of the Contract Documents and modifies the Original Bidding Documents as noted below. Acknowledge receipt of this Addendum in the space provided on the Form of Proposal. Failure to do so may subject the Bidder to disqualification. This Addendum consists of three (3) pages.

QUESTIONS:

1. Reviewing the drawings where the new ductwork is shown, it appears that in the part plan drawings the clearance of the VAVs will be reduced below an acceptable distance. It appears that most VAVs in the part plans will need to be shifted to accommodate the new work and maintain adequate clearances. **Response: The contractor's bid shall include the relocation of seventeen (17) Terminal Units along with all associated modifications to ductwork, heating water piping, controls and insulation. The contractor shall include a Unit Price for the total cost of relocating one (1) terminal unit should additional terminal units are found to require relocation during construction. Relocated Terminal Units shall be installed in accordance with the attached detail.**
2. There is a note for duct leak testing. Is this a general conditions note or are we to do a full test & balance on the air side? If full TAB is required will we be provided with existing air flow rates to compare? Should air TAB just go to the VAV level and full water TAB? **Response:**

Duct leak testing for new ductwork sections is not required. Instead, duct insulation shall not be applied to ANY new ductwork until ALL duct modifications are complete. At that time, the contractor shall notify the HCPSS so that the engineer can visually inspect the ductwork to ensure that all ductwork has been assembled properly and all seams have been sealed. Inspections by the engineer will coincide with the construction progress meetings. Duct insulation may be applied upon notification by the engineer to do so.

All air-handling units and variable air volume terminal units shall be tested, adjusted and balanced to within 10% of the design airflows by an independent AABC or NEBB certified contractor. All results shall be reported on AABC or NEBB standard forms. The design outdoor airflow, return airflow, and supply airflow for all air-handling units are available through the following

link: [https://drive.google.com/open?id=1xHQe-](https://drive.google.com/open?id=1xHQe-QZpuy12YjxBKLMScupZ_lzFVoz4&authuser=william_angel%40hcpss.org&usp=drive_fs)

[QZpuy12YjxBKLMScupZ_lzFVoz4&authuser=william_angel%40hcpss.org&usp=drive_fs](https://drive.google.com/open?id=1xHQe-QZpuy12YjxBKLMScupZ_lzFVoz4&authuser=william_angel%40hcpss.org&usp=drive_fs)

Design maximum and minimum airflows for all variable air volume terminal units are provided on the drawings.

Heating water flow rates for all variable air terminal unit heating coils shall be tested, adjusted and balanced to within 10% of the design water flow rates by an independent AABC or NEBB certified contractor. The design heating water flow rates are available through the link provided above.

The following testing, adjusting, and balancing shall be performed for all air-handling units:

1. **Balance variable air volume systems in accordance with AABC standards for Testing and Balancing Variable Volume Systems.**

2. Replace all air filters prior to performing air balancing.
3. Measure and record the following for each air handling unit:
 - a. Equipment designation.
 - b. Manufacturer's name, model number, and serial number.
 - c. Fan motor horsepower rating.
 - d. Fan brake horsepower.
 - e. Fan rpm.
 - f. Motor rpm.
 - g. Motor efficiency rating.
 - h. Nameplate and measured voltage, each phase.
 - i. Nameplate and measured amperage, each phase.
 - j. Static air pressure conditions across fans, coils and filters.
 - k. Total and external static pressures (design – actual).
 - l. Adjust outside air, return air, and relief air dampers for the design conditions.
 - m. Supply, outdoor, return, and relief airflows (design – actual).
 - n. Cooling coil entering and leaving dry bulb and wet bulb temperatures.

The following testing, adjusting, and balancing shall be performed for all variable air volume terminal units:

1. Measure and record the following for each variable air volume terminal unit and associated heating water coil:
 - a. Equipment designation.
 - b. Manufacturer's name, model number, and size.
 - c. Minimum and maximum primary airflows (design – actual).
 - d. Heating water flow rate (design – actual).

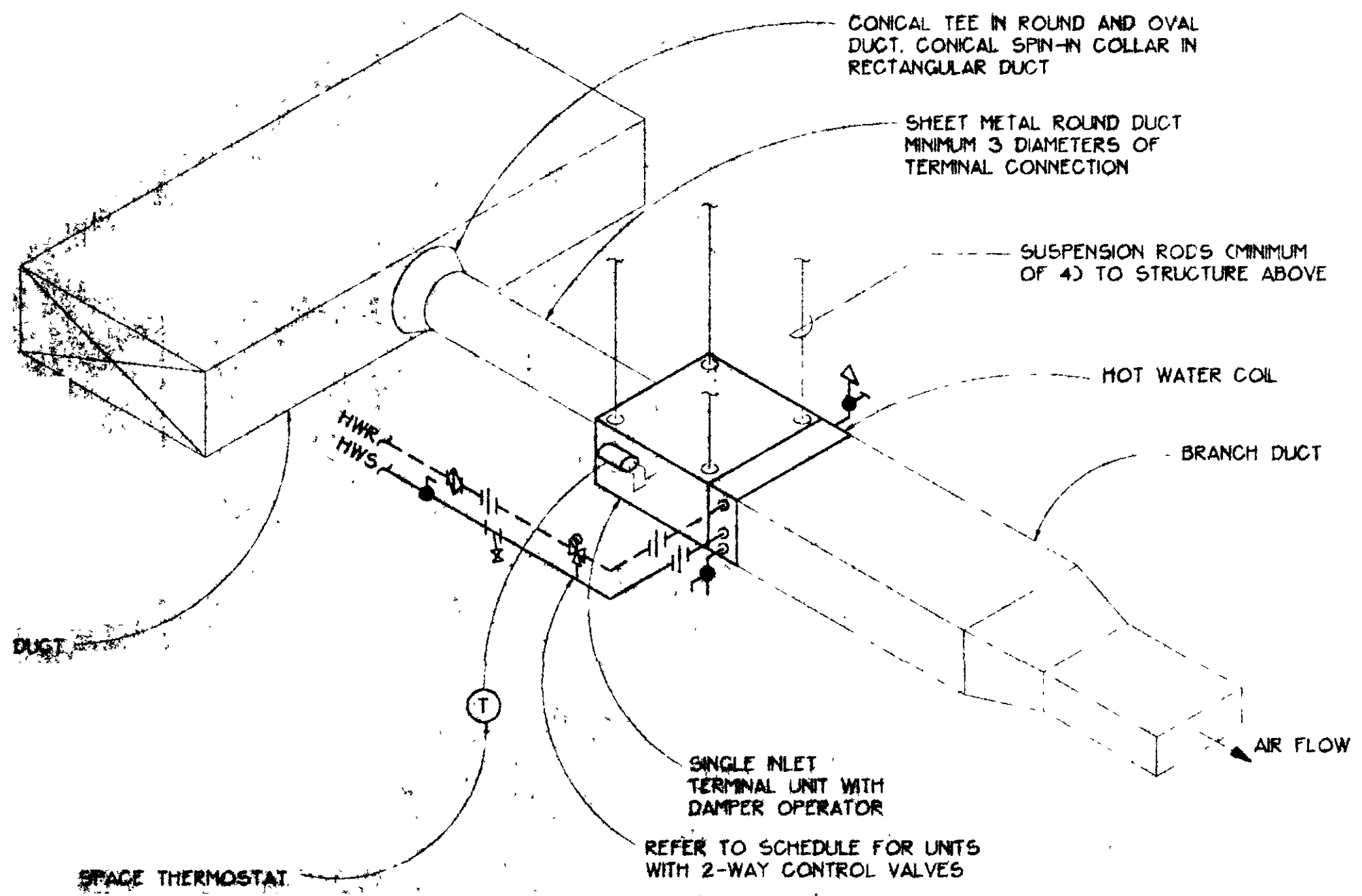
CHANGES TO THE DRAWINGS:

1. None at this time.

CHANGES TO THE SPECIFICATIONS:

1. None at this time.

END OF ADDENDUM NO. 5



TERMINAL UNIT DETAIL

NOT TO SCALE