

REAMSTOWN ELEMENTARY RENOVATIONS  
COCALICO SCHOOL DISTRICT

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This Addendum forms a part of the Contract Documents for the above referenced project; and hereby modifies and takes precedence over the original bidding documents as though originally included therein at length. Bidding contractors shall acknowledge receipt of this Addendum in the space provided on the Bid Form. **This Addendum consists of 5 pages.**

**GENERAL CLARIFICATION**

3.1 The GC shall be responsible for excavation, backfill, and restoration for the the work delineated on Drawing P-1 for the new domestic water and fire protection services from the street cutting to the building.

The PC shall be responsible to remove the existing water meter vault. The GC shall be responsible for all backfill, compaction, and restoration.

The Owner will pay any tapping fees required for the water service.

The GC shall be responsible for street cutting and restoration at the water tie-in location. Paving patch shall match existing system.

**CHANGES TO SPECIFICATIONS**

3.2 Section 01 10 00 – Summary

A. On page 01 10 00 - 2, Item 1.3.D shall be revised to read as follows:

“Commissioning Authority: Optimum Performance Balancing, LLC, 31 Green Street, Birdsboro, PA 19508, has been appointed by the Owner to serve as the Commissioning Authority for the Project.”

3.3 Section 01 29 00 - Payment Procedures

A. On page 01 29 00 - 5 add the following as Item 1.6.F.3:

“3. Transmittal shall be made via trackable method. Standard USPS mail delivery without tracking is not permitted.”

3.4 Section 01 50 00 – Temporary Facilities and Controls

A. On page 01 50 00 - 7, add the following as Item 3.3.G.2:

“2. No powered scissor or man lifts are permitted for use on the Project due to the number of spaces that are concrete slab on metal deck (floor or crawlspace construction) or for slab on grade areas. For bidding purposes, assume the use of bakers or rolling scaffold for interior that will require a lift. Also, all costs for floor protection are by each trade requiring a non-powered rolling lift or scaffolding.”

3.5 Section 23 09 00 HVAC System Controls

A. Refer to page 23 09 00 - 17 through page 23 09 00 - 19, delete Article 2.17 in its entirety.

B. Refer to page 23 09 00 - 21, delete Article 3.2 in its entirety.

C. Refer to page 23 09 00 - 22, Article 3.4; Delete the original article in its entirety and replace with the following:

#### "3.4 DDC SYSTEM I/O ADJUSTMENT, CALIBRATION, AND TESTING

- A. Verify each instrument installed that is not factory calibrated and provided with calibration documentation.
- B. Provide written description of proposed field procedures and equipment for verifying each type of instrument. Submit procedures before verification and adjustment.
- C. For each analog instrument, perform single point verification for device accuracy.
- D. Equipment and procedures used for verification to comply with instrument manufacturer's written instructions.
- E. Provide diagnostic and test equipment for verification and adjustment.
  - 1. Use field testing and diagnostic instruments and equipment with an accuracy at least twice the instrument accuracy of instrument to be verified. For example, test and verify an installed instrument with accuracy of 1 percent using field testing and diagnostic instrument with accuracy of 0.5 percent or better.
- F. Verify each instrument in accordance with instruction manual supplied by instrument manufacturer.
- G. If after verification the indicated performance cannot be achieved, replace out-of-tolerance instruments.
- H. Comply with field testing requirements and procedures indicated by ASHRAE's Guideline 11, "Field Testing of HVAC Controls Components," in the absence of specific requirements, and to supplement requirements indicated.
- I. Digital Signals:
  - 1. Check digital signals using a jumper wire.
  - 2. Check digital signals using an ohmmeter to test for contact making or breaking.
- J. Control Dampers:
  - 1. Stroke and adjust control dampers following manufacturer's recommended procedure, from 100 percent open to 100 percent closed and back to 100 percent open.
  - 2. Check and document open and close cycle times for applications with cycle time less than 30 seconds.
  - 3. For control dampers equipped with positive position indication, check feedback signal at multiple positions to confirm proper position indication.
- K. Control Valves:
  - 1. Stroke and adjust control valves following manufacturer's recommended procedure, from 100 percent open to 100 percent closed and back to 100 percent open.
  - 2. Check and document open and close cycle times for applications with cycle time less than 30 seconds.
  - 3. For control valves equipped with position indication, check feedback signal at multiple positions to confirm proper position indication.
- L. Meters: Check meters at zero, 50, and 100 percent of Project design values.
- M. Sensors: Check sensors at zero, 50, and 100 percent of Project design values.

- N. Switches: Verify switches to make or break contact at set points indicated.
  - O. Transmitters:
    - 1. Check and verify transmitters at zero, 50, and 100 percent of Project design values.
    - 2. Verify resistance temperature transmitters at zero, 50, and 100 percent of span using a precision-resistant source
  - D. Refer to page 23 09 00 - 22, Article 3.5, Paragraph B; Decrease the number of on-site training hours from 40 down to 16.
- 3.6 Section 23 09 05 - Sequence of Operations
- A. Refer to page 23 09 05 - 3, Article 3.2; delete Paragraph G and replace with the following:
    - "G. Emergency Burner Control: Provide a complete operational system with shut-down switches, as required by the PA Labor and Industry Code, at all exit doors, to interrupt power to the controls feed and the appliances electric power feed to all fuel fired equipment located within the boiler room. This shall include both boilers and both existing water heaters."
  - B. Refer to page 23 09 05 - 4, Article 3.3, delete Paragraph A and replace with the following:
    - "A. The existing chiller shall remain, the controls contractor shall provide and or maintain I/O system integration with existing chiller to BMS. The chiller and chilled water pumps will be enabled by the BMS when the outside air temperature is above a fully adjustable set point or when manually enabled through the BMS."
  - C. Refer to page 23 09 05 - 4, Article 3.3, Paragraph D; delete Item 8 and replace with the following:
    - "8. System differential pressure: indication, adjustment, and alarm."
  - D. Refer to page 23 09 05 - 14, Article 3.9; delete Paragraph A and replace with the following:
    - "A. The BMS installer shall review the packaged air handling unit shop drawings prior to submittal of control shop drawings to the Engineer. The packaged unit may be provided with factory mounted controls provided by the BMS contractor. The packaged unit to be provided with factory mounted terminal strip for field mounted control components provided by the BMS contractor. The unit controller shall be provided by the BMS installer. The BMS installer shall provide additional controls and modifications where required to ensure the units will function as indicated in the sequence."
  - E. Refer to page 23 09 05 - 14, Article 3.9, Paragraph B; delete "hydronic pre-heat coil" and replace with "hydronic reheat coil", delete "hot gas reheat" and replace with "hot water reheat coil".
  - F. Refer to page 23 09 05 - 16, Article 3.9; delete Paragraph N and replace with the following:
    - "N. Dehumidification: At any time the space humidity is above 60% RH, run the supply fan at cooling airflow, open the cooling coil control valve to provide a 54 deg. F. (adjustable) leaving air temperature and modulate open the duct-mounted reheat coil control valve to maintain the space temperature set point. When the space humidity level falls below 55% RH, reverse the sequence. Dehumidification shall be available during unoccupied cycles with the outdoor air damper closed."
  - G. Refer to page 23 09 05 - 17, Article 3.10, Paragraph G; delete Item 3 and replace with the following:

- “3. Provide controls for economizer cooling. If the enthalpy of the outdoor air is less than the enthalpy of the global indoor space sensor located in Classroom 142, PAH-1, 2, 3, 4, 5 & 6 shall all operate in the economizer mode. PAH-8 shall use the enthalpy of its respective indoor space. Start the supply fan at low speed and open the outdoor air damper to provide a 54-degree F (adjustable) leaving air temperature. If required to maintain the space temperature increase the supply fan speed and simultaneously modulate open the outdoor air damper to maintain a 54-degree F. leaving air temperature. Fully open the relief vent. The chilled water cooling will not function when the system is in an economizer mode.”
- H. Refer to page 23 09 05 - 18, Article 3.10, Paragraph H, Item 2; add the following sentence to the end of the paragraph:  
“Open the outside air and relief air dampers as required to provide and relieve the minimum scheduled outside air quantity.”
- I. Refer to page 23 09 05 - 18, Article 3.10, Paragraph I, Item 2; add the following sentence to the end of the paragraph:  
“Open the outside air and relief air dampers as required to provide and relieve the minimum scheduled outside air quantity.”
- J. Refer to page 23 09 05 - 18, Article 3.10, Paragraph I; delete item 3 and replace with the following:  
“3. Provide controls for economizer cooling. If the enthalpy of the outdoor air is less than the enthalpy of the global indoor space sensor located in Classroom 142, PAH-1, 2, 3, 4, 5 & 6 shall all operate in the economizer mode. PAH-8 shall use the enthalpy of its respective indoor space. Start the supply fan at low speed and open the outdoor air damper to provide a 54-degree F (adjustable) leaving air temperature. If required to maintain the space temperature increase the supply fan speed and simultaneously modulate open the outdoor air damper to maintain a 54-degree F. leaving air temperature. Fully open the relief vent. The chilled water cooling will not function when the system is in an economizer mode.”
- K. Refer to page 23 09 05 - 27, Article 3.21; delete Paragraph A and replace with the following:  
“A. The exterior lighting shall be controlled via BMS system interconnection to the lighting control system. Provide BACnet over IP interface to the lighting control system. All gateways, additional wiring and programming required to accommodate the interface shall be included in the contract. Each individual relay shall be individually programmed for the exterior lighting. Refer to Drawing E-C4 for relay count. The BMS graphical interface shall provide a different zone for each relay. The programs shall span the entire year, allow for automatic on/off functionality, and provide override control from wall stations.”

### 3.7 Section 26 09 43 - Distributed Lighting Control System

- A. Refer to page 26 09 43 - 12, Article 2.14; add the following Paragraph:  
“D. Provide BACnet over IP interface to the Building Management System (BMS) to allow control over the exterior lighting. Provide all programming as required to allow individual control of each exterior lighting circuit via relay panel. Coordinate connection and programming with BMS installer.”

### 3.8 Section 26 09 50 Lighting Sequence of Operations;

- A. Refer to page 26 09 50 - 4, Article 3.2, Paragraph A; delete subparagraph 1 and replace with the following:  
“1. BMS Controlled. Provide Lutron relay panels (RP1 and RP2) where identified on the drawings for exterior lighting. Provide 20 amp, 1-pole relays in quantity indicated on drawings. Provide interface with the BMS to allow control of the exterior lighting relays.”
- B. Refer to page 26 09 50 - 5, Article 3.3, add the following Paragraph:  
“C. Provide BACnet over IP interface to the BMS to allow control over the exterior lighting. Provide all programming as required to allow individual control of each exterior lighting circuit via relay panel. Coordinate connection and programming with BMS installer.”

3.9 Section 26 28 15 - Power Module Switch (Elevator)

A. Refer to page 26 28 15 - 2, Article 2.2, Paragraph B, add the following Item:

- “3. Provide auxiliary contact and necessary wiring for connection of elevator battery lowering device. Coordinate work with G.C.”

**CHANGES TO DRAWINGS**

3.10 Drawing A-11B - Typical Details

A. Reference Detail 12/A-11B. Add Note 7 as follows:

- “7. GC shall patch all trenching in terrazzo to match existing terrazzo color/pattern and original terrazzo type.”

3.11 Drawing P-1 - Site Plan - Plumbing

A. Revise General Note 4 to read as follows:

- “4. Refer to Detail 11/SP-2 for site trenching requirements. The GC shall be responsible for excavation, backfill and restoration of trenches. Handwork within the trench shall be the responsibility of the trade requiring the trench.”

B. Revise General Note 5 to read as follows:

- “5. Refer to Detail 12/A-11B for interior trenching requirements.”

C. Items A and B above also apply to the General Demolition Notes regarding excavation and trenching on Drawings P-5, PD-A1, PD-A2, PD-B1, PD-B2, PD-C1, and PD-C2.

3.12 Drawing PD-B1 - Ground Floor Plan - Unit B - Plumbing Demolition

A. Refer to Crawl Space, all work indicated must be performed even if Alternate P100 is taken for this area.

3.13 Drawing P-B1 - Ground Floor Plan - Unit B - Plumbing

A. Refer to Storage 209, all work indicated must be performed even if Alternate P100 is taken for this area.

3.14 Drawing H-2 - HVAC Schedules - Sheet 2

A. Refer to the Packaged Outdoor Air Handling Unit Schedule, Delete the Hot Gas Reheat and Humidifier Adaptive Dehumidification Controls System from RTU-2. Provide RTU-2 with a factory installed terminal strip for field mounted controls by the BMS contactor.

3.15 Drawing HD-B1 - Ground Floor Plan - Unit B - HVAC Demolition

A. Refer to Crawl Space, all work indicated must be performed even if Alternate H100 is taken for this area.

3.16 Drawing H-B1 - Ground Floor Plan - Unit B - HVAC

A. Refer to Storage 209, all work indicated must be performed even if Alternate H100 is taken for this area.

**END OF EMAIL ADDENDUM NUMBER THREE**