



ADDENDUM #2

September 11, 2009

Re: Harrisburg Area Community College
Central Administration and Green Center
Interior Improvements at Campus Square
Solicitation #10-13

From: Eastern pcm, LLC
212 Locust Street, Suite 604
Harrisburg, PA 17110

To: All Planholders

This Addendum is hereby made part of the Plans and Specifications dated May 15, 2009 for the above referenced project. The provisions of this Addendum are intended to supplement the provisions of the Plans and Specifications and/or supersede them where contradictory thereto.

This Addendum contains changes to the requirements of the Plans and Specifications. Such changes shall be incorporated into the Plans and Specifications and shall apply to work with the same meaning and force as if they had been included in the original Plans and Specifications. Where this Addendum modifies a portion of a paragraph or phrase of the Project Manual, the remaining unmodified portion of the paragraph or phrase shall remain in force.

The conditions and terms of the Plans and Specifications shall govern work described in this Addendum. Whenever the conditions of work, or the quality or quantity of materials or workmanship are not fully described in this Addendum, the conditions of work etc. included in the Plans and Specifications for similar items of work shall apply to the work described in this Addendum. If no similar items of work are included in the Plans and Specifications, the quality of material and workmanship shall be subject to the written acceptance of the Architect.

1.1 BID DATE RESCHEDULED

Section 00100 – Invitation to Bid – CHANGE FOURTH PARAGRAPH TO READ:

Harrisburg Area Community College will receive sealed bids for the work at the HACC Harrisburg Campus, One HACC Drive, Harrisburg, PA - Purchasing Office, Room 130- Whitaker Hall until **2:00 pm local prevailing time on September 16, 2009**. Bids received after this time will not be accepted. **ONLY BONAFIDE BIDS WILL BE ACCEPTED.** Bids will be opened and read aloud immediately following the bid receipt time.

1.2 QUESTIONS/ANSWERS AND CLARIFICATIONS

Questions received as of the date of this Addendum are listed below with the respective responses:

- a. **Q:** Please provide electrical circuit numbers for receptacles shown in Room 404.
- A:** Use circuit 4T4-37. Provide a new 20A, 1P breaker to serve this circuit.
- b. **Q:** The existing fire alarm cable is presently installed free air. Note #7 indicates to install all fire alarms cable in red conduit. Should fire alarm be installed in red conduit or open wire?
- A:** Fire alarm cable may be installed in free air above ceilings, provided that it is properly supported in accordance with NEC 760. Fire alarm cables installed in walls shall be in conduit.
- c. **Q:** The existing communications cable is presently installed free air. Note #8 indicates to install communications cabling in basket tray or conduit. Should communication wiring be installed in conduit/basket tray or open wiring?
- A:** Install all communications cable in basket tray or conduit in accordance with Note #8 on sheet E001. If Contractor elects to use basket tray, the layout of the tray shall be by the Contractor. Use 3/4" conduit from wall boxes to above ceiling in accordance with the descriptions on sheets E107 and E108.
- d. **Q:** Please provide lay out for the lighting controls noted on drawings E101 & E102.
- A:** The locations of required lighting controls are indicated in the descriptions on sheets E101 and E102. For example, in room 102 the required switch type occupancy sensor is to be located "adjacent to the door". Exact positioning is to be determined by the Contractor in the field in order to achieve proper control of the lights in each space according to the provided descriptions. No additional layouts will be provided.
- e. **Q:** Are there floor box specifications that are going to be provided?
- A:** See Section 16140 included herewith.
- f. **Q:** Are the wiring devices specifications going to be provided, section 16140?
- A:** Section 16140 is included herewith.
- g. **Q:** E101 & E102 lighting control notes refer to (16) sensors and (6) power packs existing on the 1st and 4th floors to be reused. E101 lighting demolition notes indicates (6) sensors and E102 lighting demolition notes indicates (13) sensors, which is a total of (19). Which count is correct?
- A:** Nineteen (19) sensors is correct.

- h. **Q:** Addendum #1- 1.30 contractor is to provide their own metering base in the switchgear room. Would you provide:
- a). make and model of the base desired
 - b). two separate meters or one ganged meter?
 - c). 200 amp breakers?
 - d). where do we feed the new meters from?
- A:** Provide a new 4 gang meter base with copper bus (Square D EZML334225D or approved equal) with a new 800A, 3P, 65kAIC main breaker (Square D EZM3800CB or approved equal) and four 200A, 3P, 65kAIC branch breakers. Feed from the existing main switchgear in the electrical room (direct bus connection) with three sets of 300KCMIL per phase and neutral + 2/0AWG in 3 inch conduit. The two meter sockets which are currently un-used are reserved for future use by HACC.
- i. **Q:** On the Room Finish Schedule on Dwg. A601, Rooms 450 Board/Conference Room and 453 President's Office list 1B and 1A, respectively, for the carpet tile and the 1B for the ceiling tile. Please confirm what product variations these suffixes are referring to.
- A:** Carpet tile 1B and 1A indicate the same carpet product but intends a different carpet color for each of the rooms noted. The ceiling tile will be the Second Look II tile through out the project, delete reference to type 1B.
- j. **Q:** In the Pre-Bid Meeting Minutes, Clarification 1.22 gave the amounts of existing ceiling tile. Please confirm the amount of grid material that will be provided. Especially with the wall angle, the quantity could vary greatly depending on what was originally figured.
- A:** The project is supplied with (35) 12' pieces of wall angle, (158) 12' pieces of main runner and (962) 4' cross tees on the first floor. The fourth floor is supplied with (69) 12' pieces of wall angle, (158) 12' pieces of main runner and (962) 4' cross tees.
- k. **Q:** In regards to the bid form unit price #1 do you have a certain distance that you would like for an outlet to the data closet? Or is all Telecom work an add/deduct?
- A:** The unit price to add or deduct a data or voice drop is to be based on 75 LF. All telecommunications work is included under this contract.
- l. **Q:** Cabinet elevation "B" on sheet A401...where is this in plan view?
- A:** Refer to drawing A103, PR Conference Room 439, interior elevation indicator B.
- m. **Q:** Sheet A602 partition type 1&2 references "structure" we are assuming this to be both steel beams and bar joist...not roof deck. Is this correct?
- A:** The structure noted is intended to symbolize the wall interface with beams and floor deck above for the First Floor and beams, open web steel joists and roof deck for the Fourth Floor.

n. **Q:** On the first floor what is the floor to bottom side of Structure?

A: Approximately 13' – 6" from floor to underside of floor deck above, existing conditions to be field verified by the contractor.

o. **Q:** On the fourth floor what is the floor to bottom side of Structure?

A: The roof deck slopes. The heights range from approximately 13' – 5" to 12' – 2" from floor to underside of roof deck above, existing conditions to be field verified by the contractor.

1.3 CHANGES TO PROJECT MANUAL

a. Section 00410 – Bid Form

CHANGE the description of Unit Price #1 to read: "Unit Price #1 – Data or Voice Connection Complete from Data/Telephone Closet to Final Location"

b. Section 01270 – Unit Price

CHANGE Paragraph 3.1 (B) to read as follows:

B. Unit Price No. 1 – Data or Voice Connection Complete from Data/Telephone Closet to Final Location

State the amount on the Bid Form to be added or deducted from the Base Bid for all work related to the complete installation of a data or voice connection from the data closet on the respective floor to the final location, including all wiring, connectors, hangers, back boxes, conduit, cover plates, etc.

c. Section 05400 – Cold Formed Metal Framing

DELETE section: "05400 – Cold Formed Metal Framing"

d. Section 05500 – Metal Fabrications

DELETE section: "05500 – Metal Fabrications"

e. Section 16140 – Wiring Devices

ADD section: "16140 – Wiring Devices"

END OF ADDENDUM

SECTION 16140 - WIRING DEVICES**PART 1 GENERAL****1.01 SUMMARY**

- A. Section Includes:
 - 1. Requirements for furnishing, installing, connecting, energizing, testing, cleaning, and protecting wiring devices and cover plates.
- B. Related Sections:
 - 1. Section 01330 - Submittal Procedures.
 - 2. Section 16050 - Basic Electrical Materials and Methods.
 - 3. Section 16060 - Grounding and Bonding.
 - 4. Section 16070 - Hangers and Supports.
 - 5. Section 16080 - Electrical Testing.
 - 6. Section 16075 - Electrical Identification.
 - 7. Section 16131 - Conduit and Tubing.
 - 8. Section 16122 - Low-Voltage Wire, Cable, and Accessories.
 - 9. Section 16138 - Boxes.

1.02 REFERENCES

- A. National Electric Manufacturer's Association (NEMA):
 - 1. NEMA WD 1 General Color Requirements for Wiring Devices.
 - 2. NEMA WD 6 Wiring Devices - Dimensional Requirements.
- B. National Fire Protection Association (NFPA):
 - 1. NFPA 70 National Electrical Code (NEC).
- C. Underwriter's Laboratories, Inc. (UL):
 - 1. UL 20 Standard for Safety for General-Use Snap Switches.
 - 2. UL 231 Standard for Power Outlets.
 - 3. UL 498 Standard for Safety for Attachment Plugs and Receptacles.
 - 4. UL 943 Standard for Safety for Ground-Fault Circuit-Interruption.
 - 5. UL 1681 Standard for Safety for Wiring Device Configurations.
- D. U. S. General Services Administration (GSA):
 - 1. Federal Specifications:
 - a. W-C-596/40D Connector, Receptacle, Electrical, General Purpose, Duplex, General Grade and Hospital Grade, Grounding, 2 Pole, 3 Wire, 20 Amperes, 125 Volts, 50/60 Hertz, Box Mount and Snap-In Mount.
 - b. W-C-596/107A Connectors, Receptacle, Electrical, Special Purpose, Single, Grounding, 2 Pole, 3 Wire, 20 Amperes, 277 Volts, 50/60 Hertz.
 - c. W-S-896F Switches, Toggle (Toggle and Lock), Flush Mounted (General Specification).

1.03 DEFINITIONS

- A. Definitions for all items are as stated in NFPA 70 and the other references listed unless otherwise stated, specified, or noted.
- B. Wiring Devices: Yoke mounted switches and receptacles with indicated line ratings of 300 Volts and 30 Amperes or less.

1.04 DESIGN REQUIREMENTS

- A. Provide electrical power outlets designed in accordance with the requirements of UL 231 and UL 1681.
- B. Product Data:
 - 1. Submit a list of the products and accessories proposed to satisfy the requirements of this Section.
 - 2. Submit Product Data and catalog cuts of the materials and equipment proposed to be used to satisfy the requirements of this Section.
 - a. Clearly indicate the usage of each product on the submittal.
 - 3. Include Product Data for the equipment and material provided under this Section with the Operation and Maintenance Manuals.

1.05 SUBMITTALS

- A. Submit the following information to the Engineer for approval in accordance with the requirements of Section 01330, Submittal Procedures:
 - 1. Product Data:
 - a. List of the proposed materials.
 - b. Catalog cuts of toggle handle snap switches.
 - c. Catalog cuts of commercial specification grade receptacles.
 - d. Catalog cuts of commercial specification grade GFCI receptacles
 - e. Catalog cuts of device plates and covers.

1.06 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Installer Qualifications:
 - a. To supervise installation of the Work of this Section, employ licensed electricians.
 - 2. Electrical Testing Laboratory (ETL) Qualifications:
 - a. Employ an independent testing agency, qualified to perform testing required by this Section.
- B. Regulatory Requirements:
 - 1. Perform the Work of this Section in accordance with the requirements specified in NFPA 70, and to all other applicable state, local, and national governing codes and regulatory requirements.
- C. Certifications:
 - a. Provide products that are listed and labeled by Underwriters Laboratory, approved by Factory Mutual, or certified as meeting the standards of UL by the Electrical Testing Laboratory (ETL) for the location installed in, and the application intended.

1.07 MATERIAL DELIVERY, STORAGE, AND HANDLING

- A. Packing, Shipping, Handling, and Unloading:
 - 1. Pack, ship, handle, and unload products in accordance with the requirements of Section 16050, Basic Electrical Materials and Methods.
- B. Acceptance at Site:
 - 1. Accept products at the Site in accordance with the requirements of Section 16050, Basic Electrical Materials and Methods.

- C. Storage and Protection:
1. Store products in accordance with the requirements of Section 16050, Basic Electrical Materials and Methods.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Use of Trade Names:
1. The use of trade names within the Contract Documents is intended to establish the basis of design and to illustrate the constructability and level of quality required.
 2. The use of trade names is not intended to exclude other manufacturers whose products are equivalent to those named, subject to compliance with Contract requirements.
- B. Provide the switches and receptacles of the same kind provided under this Contract from the same manufacturer; a mixture of manufacturers= products is unacceptable.

2.02 MANUFACTURED UNITS

- A. Switches:
1. Provide UL listed specification grade switches meeting the requirements of W-S-896F, NEMA WD 1, and NEMA WD 6 for the voltage and current indicated, and having screw terminals.
 2. Toggle Handle Snap Switches:
 - a. Provide quiet design, 20 Amp rated, single pole, 3-way or 4-way, toggle handle snap switches as indicated in the Contract Documents.
 - b. Manufacturers:
 - 1) Hubbell, www.hubbell-wiring.com.
 - a) Construction Series Heavy Duty Specification Grade Switches: CS1220 Series.
 - 2) Pass & Seymour, www.passandseymour.com.
 - 3) Leviton Manufacturing Co., www.leviton.com.
 - 4) Approved equal.
- B. Receptacles:
1. Provide UL listed specification grade receptacles complying with the requirements of W-C-596/40D, for the voltage and current indicated, and having screw terminals.
 - a. Provide receptacles complying with the terminal identification requirements of UL 498.
 2. Standard Face Design Receptacles:
 - a. Construction Series Heavy Duty Specification Grade Receptacles:
 - 1) Provide 2-pole, 3-wire, grounding type duplex receptacles rated for 125 Volts AC and 20 Amperes, and having a finger groove nylon face.
 - 2) Manufacturers:
 - a) Hubbell, CR5362 Series, www.hubbell-wiring.com.
 - b) Pass & Seymour, www.passandseymour.com.
 - c) Leviton Manufacturing Co., www.leviton.com.
 - d) Approved equal.
 3. Ground Fault Circuit Interrupter (GFCI) Receptacles:
 - a. Commercial Specification Grade GFCI Receptacles:

- 1) Provide 2-pole, 3-wire, grounding type duplex GFCI receptacles rated for 125 Volts AC and 20 Amperes; having solid state circuitry; and that comply with the requirements of UL 498 and UL 943.
- 2) Manufacturers:
 - a) Hubbell, GFR5352A Series, www.hubbell-wiring.com.
 - b) Pass & Seymour, www.passandseymour.com.
 - c) Leviton Manufacturing Co., www.leviton.com.
 - d) Approved equal.

2.03 FLOOR BOXES

- A. Manufacturer:
 1. The recessed floor boxes shall be manufactured by The Wiremold Company
 - a. First Floor: 880 Series
 - b. Fourth Floor: Evolution 6AT Series
 2. Refer to contract drawings for quantity and type of power and telecommunication devices for each box designation.
 3. Provide separate boxes for telecommunication and power devices.
 4. Boxes of other manufacturers may be considered, if equal, by written approval of the Engineer and shall meet all the performance standards specified herein.
- B. 880 Series Boxes:
 1. UL Listed. Shall meet UL scrub water exclusion requirements for tile, carpet, and wood covered floors.
 2. Body shall be water tight cast aluminum suitable for use installation in concrete slabs at grade.
 3. Conduit Openings:
 - a. Access to each end of the floor box shall be provided by 1 inch conduit openings on two sides and 1-1/4 inch conduit openings on the other two sides.
 4. Adjustment:
 - a. External pre-pour adjustment shall be provided by at least 2 inch leveling screws.
 - b. Post-pour adjustment shall be at least 1/2 inch.
 5. Cover
 - a. Solid, flush, brushed aluminum.
 6. The floor box shall contain four leveling legs to provide full pre-concrete pour adjustment. Additionally, provide with the box a disposable cover to prevent the entry of debris during the construction phase.
- C. Evolution 6AT Series Boxes:
 1. UL Listed. Shall meet UL scrub water exclusion requirements for tile, carpet, and wood covered floors.
 2. 2-hour fire rated and suitable for use in air handling spaces per NEC 300.
 3. Body constructed of an intumescent fire stop material.
 - a. A half-gang 3/4 inch conduit housing assembly, attached to the main box by a short stub of 3/4" conduit, shall be provided for the field connection of conduits.
 4. Cover
 - a. Solid, flush, brushed aluminum.

- D. Provide devices as indicated on the plans and in accordance with the specifications for such devices given elsewhere in these Contract Documents.

2.04 ACCESSORIES

- A. Wall Plates:
1. Unless otherwise indicated in the Contract Documents, provide AISI Type 302/304 stainless steel wall plates.
 2. Thickness (Minimum): 0.040 inches thick (1mm).
 3. Finish:
 - a. For finished areas, provide wall plates having a satin finish.
 4. Fasteners:
 - a. For installing wiring devices and wall plates, provide the following of fastener types:
 - a) For affixing metal wall plates, provide stainless steel hardware.
 5. Manufacturers:
 - a. Hubbell, www.hubbell-wiring.com.
 - b. Pass & Seymour, www.passandseymour.com.
 - c. Appleton, www.appletonelec.com.
 - d. Cooper Crouse-Hinds, <http://crouse-hinds.com>.
 - e. Approved equal.

PART 3 EXECUTION

3.01 INSTALLERS

- A. Install the Work of this Section only under the supervision of licensed electricians.

3.02 EXAMINATION

- A. Verify that the pull and junction boxes installed are the correct type and size, and are at the correct location.
1. Verify that flush boxes are plumb and level to within 1/8-inches of vertical and horizontal; and are either flush with the finish surface or protrude no more than 1/16 inch.
 2. Verify that surface mounted boxes are plumb and level to within 1/16-inch of vertical and horizontal.
 3. Verify that the size of each box conforms to the requirements of Article 370 of NFPA 70.
- B. Verify that wiring pigtails within installed boxes are sufficiently long to re-terminate the wiring twice and still allow 6 inches of slack.
- C. Verify that ground wires are the correct type and size, and are at the correct location.

3.03 PREPARATION

- A. Remove any extraneous paint from the interior of boxes and from wiring.
- B. Clean the interior of boxes to remove dirt and debris.
- C. Provide outlet boxes and supports for wiring devices in accordance with the requirements of Section 16138, Boxes, and Section 16070, Hangers and Supports.
1. Mounting Locations and Heights:

- a. Unless otherwise specified or shown on the Contract Drawings, locate wiring devices by measuring the mounting heights from the finished floor to the centerline of the wiring device.
 - 1) Lighting Control Switches:
 - a) Locate lighting control switches on the strike side of doors, and at 48-inches above the finished floor to the centerline of the switch, unless indicated otherwise on the Contract Drawings.
 - b) Where it is not possible to mount lighting control switches side-by-side with a common device plate, mount them in tandem.
 - 2) Electrical Duplex Convenience Outlets:
 - a) Locate electrical duplex convenience outlets 18 inches above the finished floor to the centerline of the outlet, unless indicated otherwise on the Contract Drawings.
 - b) Locate electrical duplex convenience outlets that are above counters or backsplashes horizontally 6 inches above the counter or backsplash.
- b. Where new devices are to be installed in the same room or space as existing devices, the mounting heights listed above shall be adjusted to match the existing devices.

3.04 INSTALLATION

- A. Install wiring devices and accessories in accordance with the manufacturer's printed installation instructions.
 1. Submit the manufacturer's printed installation instructions to the Engineer for information.
 2. Make connections to the devices in accordance with the requirements of Section 16122, Low-Voltage Wire, Cable, and Accessories, and Section 16131, Conduit and Tubing.
 3. Ground the devices in accordance with the requirements of Section 16060, Grounding and Bonding.
- B. Provide a wall plate for each switch, receptacle, and special purpose outlet.
 1. If the Contract Drawings show two or more switches or receptacles at the same location, gang these devices together and cover them with a single wall or cover plate.
 2. For multi-gang boxes, provide multi-gang outlet plates; sectional gang plates are unacceptable.
- C. Identify the wiring devices in accordance with the requirements of Section 16075, Electrical Identification.

3.05 REPAIR/RESTORATION

- A. Correct the defects that are found in wiring devices during the specified inspections and tests, and retest the devices after correcting the defects.

3.06 FIELD QUALITY CONTROL

- A. Site Tests:
 1. Test each receptacle with a plug-in tester that checks for reversed line and neutral wiring, reversed ground and neutral wiring, open ground wiring, and open neutral wiring.

2. Verify that the GFCI receptacles work by using both the built-in integral tester and a plug-in tester which simulates a ground fault to test all receptacles.
3. Test the last receptacle in each branch circuit to ensure that the neutral and ground wiring resistance does not exceed 1 ohm between the receptacle and its panelboard.
4. Record and submit the results of the tests to the Engineer for approval.

B. Inspection:

1. Inspect boxes to verify proper operation, for visual appearance, and to verify correct mounting height.

3.07 ADJUSTING

- A. Adjust the final position of switches and devices to be plumb and level, and set the final position of the wall plates for flush boxes flush to the wall.

3.08 CLEANING

A. Waste Management and Disposal:

1. Clear and dispose of waste materials in accordance with the requirements of Section 16050, Basic Electrical Materials and Methods.

3.09 PROTECTION

- A. Protect electrical devices against damage from other work.

END OF SECTION