0RESOLUTION NO. 2017-10_

A RESOLUTION OF THE CITY OF COATESVILLE, CHESTER COUNTY, PENNSYLVANIA AMENDING BY CHANGE ORDER THE PERFORMANCE CONTRACT WITH JOHNSON CONTROLS INC. TO REFLECT REMOVAL OF WORK THAT IS NOT NEEDED OR IS ASSOCIATED WITH THE RENOVATIONS OF CITY HALL

WHEREAS, The City of Coatesville, a Third Class City and Home Rule Municipality located in Chester County, Pennsylvania (hereinafter the "City"); and,

WHEREAS, the City has entered into a Performance Contract with Johnson Controls, Inc. (hereinafter "JCI") dated September 29, 2015 which also constitutes a guaranteed energy savings contract; and,

WHEREAS, the Performance Contract (as amended) is being further amended to remove all work that is not needed or is associated with anticipated renovations of City Hall - while still retaining guarantees of energy savings for the already completed work - by means of Change Order No. 003.

NOW, THEREFORE, BE IT RESOLVED that the City authorizes the City Manager or City Council President as "Customer" to execute Change Order No. 003 with JCI attached hereto as Exhibit "A".

IN WITNESS WHEREOF, the Council of the City of Coatesville has adopted and enacted this Resolution this 27th day of March, 2017.

C. Arvilla Hunt, Council President

ATTEST:

Michael T. Trio, City Manager

CHANGE ORDER

Performance Contract dated **09 29**, 2017 between Johnson Controls, Inc. and Customer	Change Order No. **003**		Date (mo/day/yr) 03/01/2017
Customer City of Coatesville			

The above referenced Performance Contract is hereby modified to the extent described below in accordance with the Terms and Conditions of the CHANGE ORDERS section thereof.

Scope of Work changed as follows:

Removal of the following FIM's and outlined in Schedule 1 below: Original Contract value $1,829,947.00

FIM 3: Interior Building Lighting and Occupancy Controls

FIM 4: Exterior Building Lighting

FIM 6: HVAC Upgrade at City Hall

FIM 8: Vending Machine/Plug Load Controls

Total amount of this Change Order	$	-966,628.00
Total Performance Contract amount as revised by this Change Order	$	863,319.00
The time for completion is: ☐ increased, ☒ decreased, ☐ unchanged. The new completion date resulting from this Change Order is:	(mo, day, yr)	02/28/2017

X [check if applicable] Assured Performance Guarantee changed as follows:

See Schedule 2 Table on next page:

Attachment 2

Schedule 2

Year	Guaranteed Utility Cost Avoidance	Operations & Maintenance Cost Avoidance	Customer Contribution	Annual Project Benefits
1	$39,286	$12,226	$15,500	$67,012
2	$40,464	$12,593	$15,500	$68,557
3	$41,678	$12,971	$15,500	$70,149
Year 1 – Year 3 Totals	$121,429	$37,789	$46,500	$205,718
4	$42,929	$13,360	$15,500	$71,788
5	$44,217	$13,760	$15,500	$73,477
6	$45,543	$14,173	$15,500	$75,216
7	$46,909	$14,598	$15,500	$77,008
8	$48,317	$15,036	$15,500	$78,853
9	$49,766	$15,487	$15,500	$80,754
10	$51,259	$15,952	$15,500	$82,711
11	$52,797	$16,431	$15,500	$84,728
12	$54,381	$16,924	$15,500	$86,805
13	$56,012	$17,431	$15,500	$88,944
14	$57,693	$17,954	$15,500	$91,147
15	$59,423	$18,493	$15,500	$93,416
16	$61,206	$19,048	$15,500	$95,754
17	$63,042	$19,619	$15,500	$98,161
18	$64,934	$20,208	$15,500	$100,641
19	$66,882	$20,814	$15,500	$103,196
20	$68,888	$21,438	$15,500	$105,826
Year 1 – Year 20 Totals	**$1,055,627**	**$328,517**	**$310,000**	**$1,694,144**

Unless specifically changed by this Change Order, all terms, conditions and provisions of the above referenced Performance Contract remain unchanged and in full effect.

JOHNSON CONTROLS, INC.	**CUSTOMER**
Signature:	Signature:
Printed Name:	Printed Name:
Title:	Title:

Schedule 1

FIM 3: Interior Building Lighting and Occupancy Controls

Facilities included for this measure:

- City Garage
- Ash Park
- City Hall
- Memorial Community Center

Scope of Work - Lighting:

Interior lighting systems throughout the City of Coatesville consist of a mix of T12 fluorescent lamps and high wattage T8 fluorescent lamps. Some areas in City Hall contain compact fluorescent fixtures; the city garage also has some incandescent lamps.

The detailed scope of work is shown below, a summary is as follows:

- Retrofit existing T12/magnetic fixtures with 25Watt T8 lamps
- Retrofit existing 32W T8/electronic fixtures to 25W T8/electronic fixtures
- Identified incandescent lamps will be retrofitted to LED A-lamps
- Specified compact fluorescent lamps will also be retrofitted to LED

Specific quantities of each type of upgrade per building are shown on the following pages. Complete lighting line by lines are included as Attachment 5 of the contract.

Ash Park

Building	Existing Fixture Description	Proposed Fixture Description	Quantity
Pool House	1x4-2F40-Surf	(2) T8-LOEB	1
Pool House	1x4-2F40-Van	(2) T8-LOEB	18
Pool House	1x4-2FO32-VAP	(2) T8-LOEB	5
Pool House	Exit-2H-(2)T20	New LED Exit w/ Heads	5
Pool House	Square-60A	10w LED Dim A	2
Pump Building	1x8-2F96-IH	New 1x8-2T8-HP-IH	2
		Total	**33**
		Total Retrofitted	**33**

City Garage

Building	Existing Fixture Description	Proposed Fixture Description	Quantity
City Garage	1x4-2F40-IH	(2) T8-LOEB	8
City Garage	1x4-2F40-IH	New 1x4-2T8-LO-IH	4
City Garage	1x4-2F40-S	(2) T8-LOEB	2
City Garage	1x4-2F40-W	(2) T8-LOEB	1
City Garage	1x4-2FO32-IH	(2) T8-LOEB	1
City Garage	1x8-2F96HOSS-IH	New 1x8-4T8-HP-IH	18
City Garage	2x4-4F40-L	(2) T8-EB-W-Ref	2
City Garage	2x4-4F40-L	(2) T8-LOEB-W-Ref	3
City Garage	Bare-90A	13w LED Dim A	1
City Garage	Fan-60A	10w LED Dim A	1
City Garage	Pendant-60A	10w LED Dim A	1
City Garage	Pendant-75R30	10w R30 Dim LED	1
		Total	**43**
		Total Retrofitted	**43**

City Hall

Building	Existing Fixture Description	Proposed Fixture Description	Quantity
City Hall	1x3-2F30-S	(2) F25T8-LOEB	6
City Hall	1x4-1F40-P9	(1) T8-LOEB	4
City Hall	1x4-2F40-Fin	(2) T8-LOEB	12
City Hall	1x4-2F40-P9	(2) T8-LOEB	10
City Hall	1x4-2F40-S	(2) T8-LOEB	7
City Hall	1x4-2F40-Up	(2) T8-LOEB	14
City Hall	1x4-2F40-W	(2) T8-LOEB	43
City Hall	1x8-2FO96T8HO-IH	New 1x8-2T8-HP-IH	1
City Hall	2x4-4F40-L	(2) T8-EB-W-Ref	95
City Hall	2x4-4F40-L	(2) T8-LOEB	4
City Hall	2x4-4F40-L	(2) T8-LOEB-W-Ref	17
City Hall	2x4-4FO32-P.5	(4) T8-LOEB	4
City Hall	Exit-(2)T20	New Single Face Exit	2
City Hall	Exit-Edge-lit	New Edgelite SF Exit	8
City Hall	Exit-LED	No Upgrade	1
City Hall	Exit-PL9	New Single Face Exit	13
City Hall	HH-60A	10w LED Dim A	24
City Hall	HH-65R30	10w R30 Dim LED	13
City Hall	HH-CF13	7w LED Dim A-Lamp	122
City Hall	Pendant-MH250	No Upgrade	2
City Hall	Sconce-CF13	7w LED Dim A-Lamp	13
City Hall	Square-60A	10w LED Dim A	6
City Hall	Square-CF13	7w LED Dim A-Lamp	1
City Hall	Square-CF23	13w LED Dim A	6
		Total	**428**
		Total Retrofitted	**425**

Scope of Work – Occupancy Sensors:

The occupancy sensor scope is limited to the facilities listed above and specific locations within these buildings based on their operating hours. Sensors will be either dual technology sensing both motion and sound or will use Passive Infrared (PIR) technology.

- Offices – In most cases sensors will be ceiling mounted with dual technology.
- Breakroom / Restroom – Sensors will be dual technology

The tables below lists the quantity and type of occupancy sensors installed per building. See Attachment 5 for a complete list of sensor locations and type in each building.

City Garage

Sensor Description	Quantity
CM Dual Tech Sensor	2
Total	**2**

City Hall

Sensor Description	Quantity
Wall Switch Dual Tech	3
CM Dual Tech Sensor	27
Total	**30**

Memorial Community Center

Sensor Description	Quantity
CM Dual Tech Sensor	4
CM PIR Sensor	1
WSD 2-Pole PIR Wall Switch	1
Total	**6**

Equipment	Manufacturer Warranty
Occupancy Sensors	5 Years – Parts 1 Year - Workmanship

Clarifications/Exclusions:

- Excluded: Repair or replacement of defective electrical, other than the equipment specifically described in the FIM description (Johnson Controls will identify the location of defective equipment and notify the owner.)
- Excluded: Repair or upgrades required due to rectify existing code violations unless specifically described in this Scope of Work.
- Excluded: Engineering drawings
- Existing switching capability to remain the same

FIM 4: Exterior Building Lighting

Facilities Included for this Measure:

- Ash Park
- City Garage
- City Hall
- Memorial Community Center

Scope of Work:

Existing exterior high intensity discharge (HID) pole, wall-pack, and flood fixtures as described in the scope will be replaced with LED fixtures. Where possible, existing CFLs and incandescent fixtures will be re-lamped with LEDs.

The following fixtures are included in the scope of work for conversion to LED.

Ash Park

Building	Existing Fixture Description	Proposed Fixture Description	Quantity
Ash Park	Jelly-60A	10w LED Dim A	1
Ash Park	Pole-Flood-MV175	74w LED Flood	2
Ash Park	Sconce-60A	10w LED Dim A	4
Ash Park	Wallpack-Cut-HPS100	40w LED Wallpack	8
Ash Park	Wallpack-Cut-MH150	74w LED Wallpack	2
Ash Park	Pole-Flood-MH1000	No Upgrade	10
		Total	**27**
		Total Retrofitted	**17**

City Garage

Building	Existing Fixture Description	Proposed Fixture Description	Quantity
City Garage	Sconce-90Par38	17w P38 Dim LED	4
City Garage	Area-MV250	74w LED Flood	2
City Garage	Bare-60A	10w LED Dim A	13
		Total	**19**
		Total Retrofitted	**19**

City Hall

Building	Existing Fixture Description	Proposed Fixture Description	Quantity
City Hall	Flood-HPS100	37w LED Flood	4
City Hall	Flood-HPS150	74w LED Flood	3
City Hall	Flood-LED70	No Upgrade	1
City Hall	HH-100PAR38	17w P38 Dim LED	2
City Hall	HH-LED15	No Upgrade	3
City Hall	Pole-Cobra-MH400	180w LED Cobra	2
City Hall	Sconce-90Par38	17w P38 Dim LED	9
		Total	**24**
		Total Retrofitted	**20**

Memorial Community Center

Building	Existing Fixture Description	Proposed Fixture Description	Quantity
Community Center	Flood-300Q	37w LED Flood	5
Community Center	Square-60A	10w LED Dim A	5
Community Center	Wallpack-HPS150	74w LED Wallpack	1
Community Center	Wallpack-HPS70	40w LED Wallpack	1
		Total	**12**
		Total Retrofitted	**12**

Clarifications/Exclusions:

- Excluded: Repair or replacement of defective electrical, other than the equipment specifically described in the FIM description (Johnson Controls will identify the location of defective equipment and notify the owner.)
- Excluded: Repair or upgrades required due to rectify existing code violations unless specifically described in this Scope of Work.
- Excluded: Engineering drawings
- Excluded: Replacement of Lenses
- Two Bollard's will be removed and two new poles will be installed to receive new post top lights.

- No new circuitry is included as part of this scope, unless otherwise noted above.

FIM 6: HVAC Upgrade at City Hall

Facilities Included for this Measure:

- City Hall

Scope of Work:

Mechanical Scope of Work:

- Replace the four (4) Carrier RTUs with JCI RTUs, as specified below
  - RTU-1 Model J25ZJS24G4VZZ3 (25 Ton, 460V/3Ph) Gas/ Electric Rooftop Unit
  - RTU-2, 3 Model J15ZJS24G4VZZ3 (15 Ton, 460V/3Ph) Gas/ Electric Rooftop Unit
  - RTU-4 Model J10ZHS15W4VZZ7 (10 Ton, 460V/3Ph) Gas/ Electric Rooftop Unit
  - Include factory mounted controls
  - Include curb adapters
  - Includes modifying lightning protection system for (4) RTUs
  - Note: RTU #4 is currently gas fired and has a separate gas line from the meter. RTU #1 thru #3 will require a separate gas line run to the roof off the gas meter located on the south side of building. New gas line will be run up the outside of the building alongside existing PVC line to roof and then across roof with pipe supports.
- Replace (26) existing fan-powered VAV boxes with new VAV boxes to match existing size, include HW reheat only in new boxes, install new HW valves for re-heat coils.
- Reuse the majority of the ductwork throughout the building and provide duct cleaning. Furnish and install new internally lined sheet metal ducts for outlet and new insulated flexible duct for inlet of boxes. Insulate existing RTU-1 un-insulated main supply trunk ductwork externally with R-6 foil wrap. New ductwork insulation to be compliant with current building code.
- Install two (2) 4-ton ductless split systems with low ambient controls to serve the server room
  - Furnish and install new refrigerant lines from ceiling suspended cassette units through roof to new units on roof.
  - Include new condensate lines from cassette units to nearby drain above ceiling.
  - Set roof mounted units on roof pads as specified by roofing contractor who holds warranty for new roof.
- Install (9) new valves for the radiators
- Provide air balancing to the VAV boxes and replace the linear diffusers with a traditional 2x2 lay-in type ceiling diffuser (Tuttle & Bailey) relocated in ceilings for more efficient air delivery to occupants
- Reconnect hot water piping to new reheat coils
- Reconnect existing PVC condensate lines to new VAV boxes.
- Reconnect electrical to new VAV boxes
- Furnish and install (2) Lochinvar Model KBN501 or JCI-approved equal (500MBH, +90 Efficient Condensing Gas Fired HW Boilers) to replace existing boilers
  - Include new boiler trim, wiring to new boilers
  - Include new BACnet interface
  - Include new boiler circulator pumps
- Furnish and install new insulated Victaulic & T&C pipe for connections from existing supply and return piping to new boilers
- Furnish and install new PVC intake and exhaust flue venting from boiler room out through wall to below ground pit and vent up alongside wall three feet above ground.
- Furnish and install new expansion tank and air separator
- Replace the existing 1.5 HP hot water supply pumps, include new isolation valves for pumps
- Provide water balancing for new hot water units

General Scope of Work:

- Replace existing ceiling tiles in the building – Total square footage of 16,675 sqft – Existing grid to be re-used wherever possible. Existing hard ceilings are to remain (approx. 5,200 sqft).

- New ceiling grid will be installed to match existing, wherever possible.

Controls Scope of Work:

New Roof Top Units (Packaged Controls) **(Typical for 4)**
Factory mounted and prewired Controls
- Simplicity SE controller with Gateway for BACnet MS/TP
- Discharge Air Temp
- Return Air Temp
- Outside Air Temp
- Return Air Smoke Detector
- Dry Bulb Economizer
- VAV Controller with VFD

Field installed controls and I/O points.
- BACnet MS/TP communication wiring between units.
- Down Duct Static Pressure Sensor
- Zone Space Temp Sensor
- CO2 Control and Low Ambient Kits

Control Strategies:
- Scheduling and monitoring

VAV Terminal Boxes (VAV) **(Typical of 26)**
Factory mounted and pre-wired Metasys VMA Controller.
- BACnet MS/TP communication wiring between each VAV box.

Field installed control points
- Discharge Air Temp
- Zone Temp Sensor (w/ Guards in public areas)
- HW Control Valve Actuator
- Radiator Zone Control Valves (where applicable)

Control Strategies:
- Zone Temperature Control
- Sequencing Control Valves - Radiator Zones with Reheat Coil Valves

Server Room Zone Monitoring **(Typical of 1)**
Field install and wire to nearest VAV terminal box
- IOM expansion module
- Zone Temp Sensor
- Zone Relative Humidity Sensor

HW Boiler Equipment Room **(Typical of 1)**
Field install the following controls and I/O points.
- Metasys FEC Control Panel
- Outdoor air temp sensor
- HW Supply Temp
- HW Return Temp
- HW Pump 1 Start/Stop/Status
- HW Pump 2 Start/Stop/Status

Field install the following network communication boiler equipment room.
- Network Supervisory NAE55 and UPS panels.
- BACnet MSTP (Bus 1) wiring, daisy chain between the new RTU's, VAV controllers.
- BACnet MSTP (Bus 2) wiring to new Boiler master control panel. (BACnet interface by Mfgr)
- CAT6 network wiring to customer's network switch.

Control Strategies:
- Boiler System monitoring by Metasys
- HW setpoint reset – Master Boiler Panel
- HW pump lead/lag control – monthly runtime

Clarifications/Exclusions

- Includes password protected graphical web based access of the existing Metasys control network via standard PC web browser. Network Access and Security provided and granted by the customer.
- The final LAN connection to the physical Ethernet switch, firewall and IP port addressing shall be the customer's responsibility.
- Standard Graphics included for RTUs, VAVs and Boilers
- Includes (4) hours of onsite Customer Training.
- Includes JCI wiring Standards. Conduit or wire mold is excluded.
- New wiring shall be plenum rated in accessible spaces, conduit (EMT) in mechanical spaces, and rigid conduit in outdoor areas.
- A dedicated user interface PC is not included. (Customer shall access system via any PC web browser that is connected to network.)
- Any existing safety devices to be reused are assumed to be functioning properly.
- Life Safety Fire Alarm System interconnection or interface wiring is excluded.
- Any hazardous waste including but not limited to asbestos, PCB's, chemical compounds, etc. if discovered during work on this project will be reported directly to the owner, but JCI excludes any work associated with the removal or treatment of these types of waste materials. Work will stop if any of these materials are found and will not resume until the area is deemed safe to continue work.
- Excluded: Costs for PECO to upgrade the natural gas service, it is assumed that UGI will perform this upgrade for no cost to the City.
- Excluded: Work associated with the Fire Alarm System. JCI however, will provide fire, smoke and combination dampers where required by Code and/or shown on the engineering drawings.
- Excluded: Repair or replacement of unidentified or uncharted underground utilities or other unknown underground conditions. Johnson Controls is not responsible for any unknown pre-existing underground conditions.
- Excluded: Repair or replacement of defective mechanical, electrical or controls equipment, except the equipment described in the scope description (Johnson Controls will identify the location of defective equipment and notify the owner)
- Excluded: Repair or upgrades required to bring to Code any adjacent Systems – such as Walls, Partitions, Doors, Fire Protection, Electrical and Mechanical not specified in the above scope of work.
- Excluded: Temporary space conditioning, unless otherwise specified.
- Excluded: Engineering services, studies, and analysis associated with any exclusions or work clearly outside of the scope definition.
- Final equipment manufacturers for this scope of work will meet the energy performance specifications set forth in this scope of work, and will be approved by JCI and the engineer of record.
- Excluded: Relocation of personnel, furniture, and any other movable fixtures
- Design Conditions:
    - Weather Station: Philadelphia, PA
    - Summer Design Temp.: 89.0°F D.B. / 74.0°F W.B. (ASHRAE 1%)
    - Winter Design Temp.: +15.0°F D.B. (ASHRAE 99%).
    - Indoor Design Temp.: 75°F, 50% R.H. Summer; 68°F Winter.
    - Ventilation (outside) air: ASHRAE 62.1
    - Final control sequences to be developed between the engineer of record and Johnson Controls, and provided prior to construction.

FIM 8: Vending Machine/Plug Load Controls

Facilities Included for this Measure:

- City Hall

Scope of Work

- Provide and install two (2) VendingMisers for cold drink vending machines

Building	Number of Vending Misers
City Hall	2
Total	2

- Provide and install (6) Bert 110C devices for the following equipment in City Hall.
- Coordinate with facility staff to implement successful installation.
    - The Bert devices shall be scheduled to eliminate the plug load at the following times; 6PM-7AM, Weekdays, OFF Weekends, 113 Hours/Wk

Building	Large Copiers	Printers/Scanners	Total
City Hall	3	3	6

Equipment	Make	Warranty
Plug Load Control Device	BERT	1 Year - Parts

Clarifications/Exclusions:

- JCI is not responsible for the accidental or intentional removal of the VendingMiser devices where they are deployed. If any existing vending machine is replaced or upgraded it is the customer's responsibility to ensure the vending/snack miser is moved to the new vending machine.
- The customer is responsible to obtain any required permissions from the Vending Machine providers, if necessary.
- JCI is not responsible for the accidental or intentional removal of the Bert devices where they are deployed. If any existing devices are replaced or upgraded it is the customer's responsibility to ensure the plug load device is moved to the new equipment.
- JCI is not responsible for changes to the Bert schedules that negatively impact the energy savings. The Bert schedules are required to achieve the specified energy savings and should be maintained by the city.
- Excluded: Repair or replacement of defective equipment or electrical systems (Johnson Controls will identify the location of defective equipment and notify the owner)