ADDENDUM NUMBER 1

RE: BID DUE: April 5, 2018 @ 12:00 P.M.
BID/RFP TITLE: “Consultant for City Wide Retrocommissioning”

The following question was submitted by potential bidders relative to the above referenced Invitation to Bid. The question and answer is below:

Q1 Bid due date/time is listed as 12PM on the cover page and 11AM on page 5. Which is correct?
A1 12:00 Noon.

Q2 Under the Min Criteria section, is the number of years RCx experience for the company, or a sum of the individuals (4) being proposed for the project?
A2 Please list the number of years RCx experience for each of the individuals proposed for the project. Under the Number of years Retrocommissioning Experience listed on page 2 (Minimum Criteria), please indicated the number of years RCx experience for the company.

Q3 Would the inclusion of the resumes for the 4 staff members identified for this project be helpful in documenting company's depth of RCx experience?
A3 Yes

Q4 What emergency services are anticipated that would require 1 hr response? Typically that would be something the controls or mechanical contractor would handle directly rather than the RCx agent. Contractor must be within a 25-mile radius of Quincy or have area service available for emergency calls and respond within 1 hours of service call for emergency repairs
A4 Emergency services, by their very nature, cannot be fully anticipated. However, here are some examples. The City participates in demand response programs that sometimes include little notice prior to load shedding events. Additionally, the RCx agent should be available to coordinate work with the controls and/or mechanical contractors, when conditions warrant timely intervention.

Q5 With regards to the above reference RFP, can you clarify for me if the price proposal (hourly rates) is to be submitted separately from the qualifications package?
A5 Please disregard any reference to 2 separate envelopes. The bid should be all in one sealed envelope.

Q6 Have prior studies been performed at the selected facilities, and can copies be provided?
A6 There have been no comprehensive studies done of the selected facilities. However, the City is providing an extract of our proposal to the Massachusetts Department of Energy Resources through the Green Communities Program. See attachment.

Q7 The directions ask for a thumb drive with both Price and Non-Price Proposals must be submitted also i how should this be formatted? A separate document with the Price Proposal, which is separate from the rest of the body of the proposal (two documents total)?
A7 One complete document, nothing needs to be separate.

Thank you.

PLEASE ACKNOWLEDGE THIS ADDENDUM YOUR BID, AS IT IS NOW A PART OF THE BID.

Kathryn R. Logan Date: April 2, 2018
Kathryn R. Logan
Purchasing Agent
Extract from City of Quincy’s application to the Massachusetts Department of Energy Resources for competitive funding through the Green Communities Program.

Retro-commissioning, current and proposed

The City’s largest property and highest energy consumer, Quincy High School, is presently being retro-commissioned with DOER support. Our second highest energy consumer, North Quincy High School, will receive a new EMS system funded by the City in the next few months. As part of the North Quincy HS EMS system replacement, new schedules, sequences of operations and set points will be programmed to optimize the school’s energy use.

The City has identified five additional properties that are large energy consumers as priority targets for retro-commissioning. Targeted properties are:

- Lincoln-Hancock Elementary School, at 300 Granite Street;
- Thomas Crane Main Library, at 40 Washington Street;
- Point Webster Middle School, at 60 Lancaster Street;
- Police Headquarters, at 1 Sea Street/442 Southern Artery; and
- Clifford Marshall Elementary School at 200 Moody Street.

The proposed project will greatly reduce excessive energy use at these five properties and greatly increase the comfort of the occupants and patrons. To accomplish this goal, we plan to replace and update existing energy management systems that have failed or are in danger of failing because the City can no longer access the controls systems to reprogram them. With regained access to the energy management systems, we will retro-commission all five buildings.

Anticipated energy savings

The energy savings potential at these buildings is significant. In electricity usage alone, these five buildings account for 24% of the City’s baseline electricity use. Overall, we foresee reducing the energy use in these buildings by an average of 8% through retro-commissioning, for a combined total savings of 324,000 kWh and 10,400 therms.

Retro-commissioning of these buildings are included in Quincy’s Five Year Energy Reduction Plan. The buildings chosen to retro-commission as part of this application have the following characteristics:

Lincoln-Hancock Elementary School, in addition to being an elementary school, also contains an indoor pool available to the community. The pool is used year round, weekdays until 9 PM. The pool is also open on weekends. Due to the atypical long hours of occupancy and year round operation for an elementary school, any energy
reductions will be amplified. We expect to be able to reduce energy use by 7% as a result of this work by reducing the consumption of 102,000 kWh and 2,000 therms.

**Thomas Crane Main Library**, a large and complex historic structure partly built in the 1880s, is a widely used building by many City residents. The building is open to the public 7 days per week, 12 hours per day on weekdays and with weekend hours as well. Due to the year-round use of the building, it is also air conditioned, so savings can be realized in both the heating and cooling seasons. We anticipate that retro-commissioning will reduce energy consumption by 9% at the library, eliminating 118,000 kWh and 1,200 therms of energy use.

**Point Webster Middle School** is an older school that received a major renovation 15 years ago. The building is also air conditioned, and adjustments can be made to affect both the heating and cooling equipment. We believe that retro-commissioning will reduce the property’s energy use by 9%, eliminating an average 40,000 kWh and 3,600 therms used annually.

**Police Headquarters** is open 24/7. Building occupants report that there are heating, air conditioning, and ventilation problems. Due to the continuous use of this facility, the proposed improvements will have a significant impact on occupant comfort and result in an 8% energy use reduction of 36,000 kWh and 2,500 therms.

**Clifford Marshall Elementary School**, in addition to the traditional school schedule, rents the gym and cafeteria some weekends for community use. The school is also used for a summer school program and is air conditioned, so improvements proposed will affect the year-round energy performance. We anticipate achieving a 6% reduction in overall energy consumption at this school by eliminating the use of 28,000 kWh and 1,100 therms.

**Anticipated comfort improvements**

In addition to energy savings, properly functioning and balanced HVAC systems will reduce the almost constant complaints about uneven heating, cooling, and ventilation in these buildings. Despite the recent bitterly cold winter, it was not uncommon to find some windows open in sections of these buildings. Library patrons in some wings of the building complained about having to wear gloves indoors in the winter. Not only is energy wasted, but also we know these buildings are uncomfortable for employees, students, and patrons.

**Current energy use**

The recent reported energy use for the selected buildings is as follows:

- **Lincoln-Hancock Elementary School**, in FY13 consumed 7,452 MMBTUs;
- **Thomas Crane Main Library**, in FY13 reported consumption of 5,917 MMBTUs although we believe this is under reported;
- **Point Webster Middle School**, in FY13 consumed 5,745 MMBTUs;
- **Police Headquarters**, in FY13 consumed 4,692 MMBTUs; and
- **Clifford Marshall Elementary School**, in FY13 consumed 3,630 MMBTUs.

The electric meter at the main library was changed in early FY13, and although we have confirmed that data in MEI matches the electric bills, there appears to be at least a 1.5 months gap in the recording of usage. Therefore, we believe the electricity usage at the main library for FY13 is underreported. This is validated when comparing last year’s usage to similar months of prior years. We have no reason to believe that the FY13 usage data for the other four buildings is incorrect.

The energy consumption by fuel type for each building in FY13 was:

- **Lincoln-Hancock Elementary School**, 1,507,800 kWh and 23,076 therms;
- **Thomas Crane Main Library**, 1,022,300 kWh (under reported), and 24,978 therms;
- **Point Webster Middle School**, 636,800 kWh and 35,727 therms;
- **Police Headquarters**, 672,480 kWh and 23,978 therms; and
- **Clifford Marshall Elementary School**, 492,400 kWh and 19,503 therms.

**Current energy management systems**

Each of the buildings proposed for retro-commissioning has a Honeywell Energy Management System that can not be fully accessed to “see” building systems. We are unable to communicate with or make adjustments to the existing systems, and therefore, we cannot effectively control the HVAC operations. As a result, building custodians will occasionally hot wire HVAC equipment to respond to critical comfort issues. Access to the EMS must be restored as part of the preliminary retro-commissioning scope of work.

Further, current Honeywell-supplied server software is proprietary, and the central server has failed. Many of the Honeywell controllers also have failed or are in danger of failing, and they are no longer supported by Honeywell. Our plan to address these issues is to install open protocol EMS interfaces that will communicate with the existing EMS system, and replace, where appropriate, any controllers that have failed or are inoperable.
Current and proposed Energy Management Controls

Since the retro-commissioning work involves Energy Management Systems, we are providing the following requested information about the existing EMS systems and the specified improvements.

The current energy management systems (EMS) in each of the five buildings are Honeywell systems based on Excel 5000 control components with an Enterprise Building Integrator (EBI) server. The EBI software is proprietary and the city-wide system utilizes a central server. The central server has recently failed. This failure has resulted in the inability to access the EMS in each building, preventing us from making set point adjustments, troubleshoot problems, adjust schedules, or optimize sequences.

There are a total of 265 controllers in the five buildings. The count of points on each controller is estimated at 10 points for a total of 2650 points. The request will not change the number of points controlled but will allow for the replacement of the failed centralized server design with more current distributed server architecture.

The new system design will include on distributed server device in each of the five buildings; each device reporting back to a redundant virtual server hosted by the City. The request includes funding for the replacement of controllers that are known faulty, lack a program, or are no longer serviceable.

Systems and equipment to be monitored and/or controlled include boilers, chillers, cooling towers, pumps, air handling units, roof top units, variable air volume terminal units, unit ventilators, fan coil units, unit heaters, and exhaust fans.

The devices proposed are open protocol, Tridium devices operating on the Niagara AX framework. The Tridium devices are available from multiple EMS manufacturers. These devices will be equipped with LON drivers to allow communication with the existing Honeywell control devices in the five buildings and BACNET capabilities to communicate with new control devices. The new controllers required are specified to be open protocol and BACNET based. These controllers are available from multiple EMS manufacturers and will communicate with the Tridium devices.

All of the proposed and specified EMS remote control units and transducers are interchangeable with EMS main control units from other vendors. All of the remote sensors and end devices specified are available from multiple manufacturers.

The EMS program software is open-source Updates and revisions be installed by technicians other than the vendor. The Niagara AX equipped Tridium devices are open protocol. These devices are specified with open licenses that will allow for any vendor certified in Niagara AX to service/ modify/update the software.
The Tridium devices will be specified to communicate with controllers utilizing LON or BACNET communication protocols. This will allow for the flexibility to communicate with all of our existing LON controllers and any manufacturers’ controller designed for LON or BACNET.