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**April 14, 2016**

Mr. Tony Tusia  
Brooklyn Schools  
119 Gorman Road  
Brooklyn, CT 06234

**RE: Brooklyn Middle/Elementary Schools – EMS Upgrade**

Dear Tony:

We are pleased to provide the following quotation for upgrades to the Energy Management System at the Brooklyn Middle/Elementary Schools.

Scope of Work

The school presently has two (2) primary control system manufacturers as part of the building-wide Energy Management System (EMS). This includes Novar LOGIC ONE Trend Controls and Distech. Presently, these systems operate independent of each other, with a separate software package for each system.

Here is what we propose:

- Elementary School
  - General
    - Remove the two existing Lingo's and baseplates and replace with Trend TONN's
      - One TONN will be dedicated to the Middle School
      - One TONN will be dedicated to the Elementary School
  - Boiler Room
    - Provide a new Ethernet BACnet controller for the boiler room with appropriate input/output modules
    - Remove existing IOM's and reconnect all input/output points to new controller
    - Replace all temperature sensors
  - Other Existing IOM's (8)
    - Provide a new BACnet controller for each existing IOM
    - Remove existing IOM's and reconnect all input/output points to new controller
    - Replace all space temperature sensors (36)

- Miscellaneous
  - Remove the existing Distech Jace Controller and wire existing BACnet units directly to new Trend TONN
  - Reprogram entire system, checkout and commissioning
- Middle School
  - Boiler Room
    - Provide a new Ethernet BACnet controller for the boiler room with appropriate input/output modules
    - Remove existing IOM's and reconnect all input/output points to new controller
    - Replace all temperature sensors
  - Other Existing IOM's (15) and UVC's (2)
    - Provide a new BACnet controller for each existing IOM
    - Remove existing IOM's and reconnect all input/output points to new controller
    - Replace all space temperature sensors (83)
  - Miscellaneous
    - Provide a new Trend IQ4 Router for communications to the existing BACnet devices
    - Reprogram entire system, checkout and commissioning
- New Front End
  - Furnish and install a new rack-mounted server to be installed in an IT closet.
    - Note: Network connectivity by owner
  - Furnish and install new graphical user Interface software.
  - Create a new graphical user interface for monitoring and control of the following:
    - Floor plans
    - Equipment pages
    - Trend logs, alarms, etc.
    - Owner training (8 hours)

### **Pricing**

Our budget price to complete this work is ... **\$200,000.00**

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**Clarifications**

- All work to be completed by non-union electrician and technicians during normal working hours.
- We have not included repair or replacement of existing HVAC control equipment (i.e. valves or damper actuators).

Please review this quotation and do not hesitate to contact me if you have any questions.

Sincerely,

Brian S. Crafts  
President

cc: Joe Preble, FMC