July 30, 2015

City of Sparks
215 S. 21st St.
Sparks, NV 89432-0857

Attn: Brian Cason
Re: Sparks City Hall HVAC Upgrade Project-Alerton Direct Digital HVAC Control System to Match Existing City of Sparks Facilities System

Dear Brian,

We propose to furnish labor, materials and tools for the Alerton Direct Digital building management HVAC control system as indicated in MMI Engineering Mechanical plans dated 6/4/15 and "instrument and controls" specification section #230900 as follows: Addendum #1 and #2 also noted.

BASE BID-BUILDING 100 and 400:
ITEM #1: GLOBAL CONTROL SYSTEM:
1. Alerton ACM global control module.
2. Connect to existing Alerton server connected to "City of Sparks information technologies network."
3. Programming and set-up.
4. Remote access set-up.
5. Dynamic graphical displays.

ITEM #2: HOT WATER CENTRAL PLANT CONTROL:
1. Alerton VLC-DDC controller.
2. Global outside air temperature sensor.
3. Boiler #1 hot water supply temperature sensor.
4. Boiler #2 hot water supply temperature sensor.
5. Building hot water supply temperature sensor.
6. Building hot water return temperature sensor.
7. Boiler system "enable" control.
8. Boiler system "HW reset" control.
9. Boiler #1 and #2 "status" control.
10. Boiler #1 and #2 "alarm" control.
11. Boiler #1 and #2 primary hot water pump interlocks. (BP#1 and BP#2)
12. Boiler #1 and #2 BacNet interface.
13. Hot water loop differential pressure transmitter.
14. Hot water loop secondary pump VFD "start/stop" control. (BP#3 and BP#4)
15. Hot water loop secondary pump VFD "speed" control. (BP#3 and BP#4)
16. Hot water loop secondary pump VFD "status" control. (BP#3 and BP#4)
17. Hot water loop secondary pump VFD "alarm" control. (BP#3 and BP#4)
18. Boiler "emergency shutdown" switch monitoring.
      Note: Boiler emergency shutdown switches are to be provided, installed and wired by electrical contractor. (Refer to addendum #3, plan #E2.3, sheet note #3.).
19. Low voltage control wiring, raceways and terminations.
20. Programming and set-up.

ITEM #3: CHILLED WATER SYSTEM CONTROL:
1. Alerton VLCA-DDC controller.
2. Chiller #1 supply chilled water temperature sensor.
3. Chiller #1 return chilled water temperature sensor.
4. Building supply chilled water temperature sensor.
5. Building return chilled water temperature sensor.
6. Chiller #1 "start/stop" control.
7. Chiller #1 "status" control.
8. Chiller #1 "alarm" control.
9. Chiller #1 chilled water set point reset control.
10. Chiller #1 BacNet interface.
11. Chiller #1 emergency shutdown switch interlock.
12. Chilled water differential pressure transmitter.
13. Primary chilled water pump "start/stop" control. (CHWP #1 and CHWP #2)
14. Primary chilled water pump "status" control. (CHWP #1 and CHWP #2)
15. Secondary chilled water pump VFD "start/stop" control. (CHWP #3 and CHWP #4)
16. Secondary chilled water pump VFD "speed" control. (CHWP #3 and CHWP #4)
17. Secondary chilled water pump VFD "status" control. (CHWP #3 and CHWP #4)
18. Secondary chilled water pump VFD "alarm" control. (CHWP #3 and CHWP #4)
19. Free cooling heat exchanger HX-1 chilled water change over 3way control valve.
20. Low voltage control wiring, raceways and terminations.
21. Programming and set-up.

ITEM #4: CONDENSER WATER SYSTEM CONTROL:
1. Alerton VLCA-DDC controller.
2. Chiller #1 supply condenser water temperature sensor.
3. Chiller #1 return condenser water temperature sensor.
4. Condenser water pump CWP-1, CWP-2 "start/stop" control.
5. Condenser water pump CWP-1, CWP-2 "status" control.
6. Cooling tower CT-1 fan VFD "start/stop" control.
7. Cooling tower CT-1 fan VFD "speed" control.
8. Cooling tower CT-1 fan VFD "status" control.
9. Cooling tower CT-1 fan VFD "alarm" control.
10. Cooling tower CT-1 fan vibration switch monitoring.
      Note: CT-1 vibration switch monitoring.
11. Free cooling heat exchanger HX-1 condenser water change over 3way control valve.
12. Chiller condenser water 3-way bypass control valve. (To be controlled by chiller.)
13. Low voltage control wiring, raceways and terminations.
14. Programming and set-up.

ITEM #5: CHILLER ROOM VENTILATION CONTROL:
1. Alerton VLC-DDC controller.
2. Refrigerant detector.
3. Supply and exhaust fan "start/stop" control interlocks.
4. Chiller shutdown interlock with refrigerant detector.
5. Low voltage control wiring, raceways and terminations.
6. Programming and set-up.

ITEM #6: AIR HANDLER #1 CONTROL (Existing AHU):
1. Alerton VLCA-DDC controller.
2. Supply and Return fan VFD "start/stop" control.
3. Supply and Return fan VFD "speed" control.
4. Supply and Return fan VFD "status" control.
5. Supply and Return fan VFD "alarm" control.
6. Supply air temperature sensor.
7. Return air temperature sensor.
8. Mixed air temperature sensor.
9. Duct freeze thermostat.
10. Supply high duct pressure switch.
11. Return air CO_2 sensor. (1 total.)
12. Duct static pressure transmitter.
13. Building static pressure transmitter.
14. Hot water control valve and actuator.
15. Chilled water control valve and actuator.
16. Economizer damper actuators. (Control dampers by equipment manufacturer.)
17. Duct smoke detector shutdown interlock. (Duct smoke detectors by others.)
18. Low voltage control wiring, raceways and terminations.
19. Programming and set-up.

ITEM #7: AIR HANDLER #2, #3, #4, AND #5 CONTOLS (NEWAHUs):
1. Alerton VLCA-DDC controller.
2. AHU #3 Supply fan VFDs.
3. AHU #3 Return fan VFDs.
4. Supply and Return fan VFDs "start/stop" control.
5. Supply and Return fan VFDs "speed" control.
6. Supply and Return fan VFDs "status" control.
7. Supply and Return fan VFDs "alarm" control.
8. Supply air temperature sensor.
9. Return air temperature sensor.
10. Mixed air temperature sensor.
11. Duct freeze thermostat.
12. Supply high duct pressure switch.
13. Return air CO_2 sensor. (1 total.)
14. Duct static pressure transmitter.
15. Building static pressure transmitter.
16. Hot water control valve and actuator.
17. Chilled water control valve and actuator.
18. Economizer damper actuators. (Control dampers by equipment manufacturer.)
19. Duct smoke detector shutdown interlock. (Duct smoke detectors by others.)
20. Low voltage control wiring, raceways and terminations.
21. Programming and set-up.

ITEM #8: VAV TERMINAL UNIT CONTROL (73 TOTAL)
1. Alerton VAV-DDC controllers.
2. Alerton VAV-DDC room temperature sensors.
3. Alerton VAV-DDC supply air temperature sensors.
4. Belimo floating electronic damper actuators.
5. Belimo CCV hot water heating control valves.

6. Control transformers.
7. Low voltage control wiring and terminations.
8. Programming and set-up.

ITEM #9: SERVER ROOM / LIEBERT SPLIT AC UNIT CONTROL (AC#2/CU#2):
1. Installation and wiring of equipment factory provided thermostat.
2. Low voltage control wiring, interlock between indoor unit and outdoor condensing unit.
3. Alerton VLC-DDC controller.
4. Alerton VLC-DDC room temperature sensor.
5. Alerton VLC-DDC supply air temperature sensor.
6. Low voltage control wiring, raceways and terminations.
7. Programming and set-up.

ITEM #10: TYPICAL RESTROOM #EF-1 CONTROL (3 TOTAL)
1. Alerton VLC-DDC controllers.
2. EF-1 "start/stop" control.
3. EF-1 "status" control.
4. Low voltage control wiring and terminations.
5. Programming and set-up.

ITEM #11: VARIABLE FREQUENCY DRIVE UNITS:
1. AHU-1 supply fan VFD. (20hp, 480v)
2. AHU-1 return fan VFD. (7.5hp, 480v)
3. CHWP-3 pump VFD. (3.0hp, 480v)
4. CHWP-4 pump VFD. (3.0hp, 480v)
5. HWP BP-3 pump VFD. (7.5hp, 480v)
6. HWP BP-4 pump VFD. (7.5hp, 480v)
7. CT-1 cooling tower fan VFD. (10hp, 480v)
   > *Note: VFD be Nema 1 rated without bypass, disconnects, line reactors, load reactors, etc. VFD's to include a 2 year warranty.*

ITEM #12: INCIDENTAL ITEMS:
1. Eight (8) hours on-site training.
2. Submittals, O&M's and as-built wiring.
3. Coordination.
4. Programming and graphics.
5. Prevailing wage requirements.

EXCLUDED:
1. Power wiring, power conduit, installation of VFDs, starters, disconnects, fuses, etc.
2. Motors, sheaves, belts, etc.
3. Equipment, equipment start-up, repairs, modifications, etc.
4. Installation of control valves, temperature sensor wells, pipe taps, etc. By Mechanical contractor.
5. Control dampers, damper linkages, jack-shafts, etc. By mechanical contractor.
6. Duct smoke detectors.
7. Fire/smoke dampers.
8. Power wiring, to control panels and VAV terminal unit control transformers-By electrical contractor.
9. Equipment Bacnet controllers. (Boilers and chillers) By equipment manufacturers.

10. Thermometers, gauges, magnehlic gauges, etc.

11. Cooling tower vibration switches, level controls, sump heaters, sump heater controls, etc. By equipment manufacturer.
12. Isolation valves, balancing valves and PT ports. By mechanical contractor.
13. VAV terminal unit control dampers, velocity air flow sensors, coils, and control enclosures. By equipment manufacturer.
14. Network IT data drop connection and addressing. By owner.
15. Computers, printers, fiber-optic cabling, Ethernet wiring, routers, servers and software.
16. Asbestos and lead related work.
17. Moving of furniture.
18. Overtime or weekend/holiday work.
19. Permits and fees.

For this work, we ask the sum of……………………………………….……………….…...$497,766.00
Bond (1.1%)…………………………………………………………………….……$5,475.00

Total, including bond……………………………………………………..…..…..$503,241.00

Notice: This proposal "includes" prevailing wage rate requirements.

This proposal is subject to change ninety (90) days from date of proposal.
Pay terms shall be Net thirty (30) from date of invoice. BCS reserves the right to require payment in advance or other alternative method of payment prior to shipment [completion of work] if BCS determines, in its sole discretion, that the Buyer's financial condition at any time does not justify continuance of the Net thirty (30) days payment terms. In all other respects, this quotation shall be subject to the terms and conditions as outlined on the reverse side or attached page(s) of this proposal and are in lieu of any terms that may appear on any purchase order issued.

Please do not hesitate to call if you have any questions regarding this proposal.

Sincerely,

Tom Hulbert   _____
Building Control Services, Inc.   Accepted By/Date: