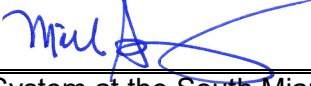


Memorandum



| | | | |
|------------------------|--|-------------------------|----------------|
| Date: | September 1, 2021 | | |
| To: | Gary Hartfield Division Director Small Business Development (SBD) Internal Services Department | | |
| From: | Michael Spring Director, Department of Cultural Affairs  | | |
| Subject: | Replacement of the Building Automation System at the South Miami-Dade Cultural Arts Center and Related Improvements | | |
| OMB Program No: | 2000000213 | OMB Project No.: | 3002420 |
| | | CUA Project No.: | C21-SMDCAC-BAS |

REQUEST

The Department of Cultural Affairs (CUA) is requesting that the subject project be reviewed by SBD Under **Program MCC 7360** for Community Small Business Enterprise (CSBE) measures, to proceed with the advertisement and subsequent bidding of the construction contract. Included with this request are the project plans.

BACKGROUND

The Department of Cultural Affairs manages the South Miami-Dade Cultural Arts Center (SMDCAC), a world-class, multi-disciplinary cultural venue and community-gathering place located at 10950 SW 211 Street in Cutler Bay. The Center plays a key role in the economic and cultural development of the area and has been serving as one of South Florida's premiere performing arts center since opening its doors in 2011. The complex consists of the main Theater Building (79,000 SF) that houses a 966-seat theater on three levels, an orchestra pit, stage area with fly loft space, dressing rooms, administrative offices, and a rehearsal room. The adjacent Activities Building (7,500 SF) adds rehearsal, small-scale performance and classroom spaces across an uncovered plaza that joins the two buildings.

The existing Building Automation System (BAS) has become obsolete, and parts are no longer manufactured or available for repairs. CUA has engaged the services of a registered Mechanical Engineer to assess and define the scope of work for services required to replace the BAS system and provide associated improvements for the facility.

SYSTEM DESCRIPTION & FINDINGS

System Description: The main building is conditioned using (2) 225-ton air-cooled chillers located adjacent to the Theater Building on the West side of the property. The chilled water from the chillers is distributed to air handling units (AHU) throughout the building. The conditioned air is distributed

South Miami-Dade Cultural Arts Center – 10950 SW 211 Street Cutler Bay, FL 33189

Background: The South Miami-Dade Cultural Arts Center is a world-class, multi-disciplinary cultural venue and community-gathering place in the southern part of Miami-Dade County. The Center plays a key role in the economic and cultural development of the area and opened on October 1, 2011. The complex consists of the main Theater Building (79,000 SF) that houses a 966-seat theater on three levels, an orchestra pit, stage area with fly loft space, dressing rooms, administrative offices, and a rehearsal room. The adjacent Activities Building (7,500 SF) adds rehearsal, small-scale performance and classroom spaces across an uncovered plaza that joins the two buildings.

System Description and Field Investigation from Basulto Engineers (September 2020)

The main building is conditioned using (2) 225-ton air-cooled chillers located adjacent to the Theater Building on the West side of the property. The chilled water from the chillers is distributed to air handling units (AHU) throughout the building. The conditioned air is distributed to the spaces from the AHU through variable air volume (VAV) boxes. The conditioned air is distributed through duct work from the VAV boxes serving individual zones.

Air distribution:

The conditioned air is distributed from each AHU via ductwork to variable air volume (VAV) boxes serving several temperature zones throughout the facility. The VAV boxes operate opening or closing a damper controlled by each zone temperature. As the VAV box zone temperature setting is satisfied, the damper modulates to reduce the volume delivered to the space. As the VAV boxes modulate they increase the static pressure inside the main distribution ductwork. A pressure sensor in the supply ductwork monitors the pressure and communicates with the energy management system, which in turn modulates the fan motor frequency drives to maintain the set point pressure. The air returns through ceiling grills throughout the space into the ceiling space or ducted back to the AHUs.

Controls:

The environmental systems are being controlled by a Direct Digital Control (DDC) building automation (BAS) system. The BAS controls the AHU motor variable frequency drives (airflow to VAV's), the chillers, pumps, and monitor the equipment operation, as well as the Center's lighting system. The BAS is a Trane Tracer system, which is outdated and not properly functioning. Replacement parts for the existing system are not readily available or supported by the manufacturer.

Ventilation:

Introduction of outside air into the building is critical to maintain the building under positive pressure and minimize infiltration of untreated air. Treated outdoor air is necessary to maintain adequate indoor air quality. Outdoor air is introduced into each AHU. Air is exhausted from spaces as required by codes and standards. This air is exhausted directly to the exterior of the building. Balance between the air being exhausted and the treated outside must be maintained to ensure adequate indoor air quality.

Smoke Control:

The main building is provided with a smoke control system consisting of smoke exhaust and make-up air fans and dampers to deviate airflows as needed. The smoke control system pressurizes the smoke zones to maintain zone of incident under negative pressure while pressurizing adjacent zones to prevent the migration of smoke between zones. The smoke from zone of incident is exhausted to allow safe egress in the event of fire. The smoke control system is controlled through the fire alarm control panel. In turn, the fire alarm control panel communicates with the BAS to control environmental air systems as needed.

Existing Conditions

1. As-Built drawings will be provided via Drop Box link to all bid participants 7 days prior to the mandatory walkthrough

RFQ STIPULATIONS:

- Mandatory site walk-through for bidders
- Design documents will be made available to interested bidders. Additional existing plans and documents will be made available to awarded bidder
- Engineer will be made available to answer questions from bidders and to help evaluate proposals

COST ESTIMATE:

The total construction cost of the project is funded with CIIP Program revenues. Program No.: 2000000213; Project No.: 3002420

| South Miami-Dade Cultural Arts Center C21-SMDCAC-BAS: Program No.: 200000213; Project No.: 3002420 Building Automation System Replacement and Related Improvements | |
|---|-----------------|
| Description | Estimated Value |
| Base Scope: | |
| Replacement of the Building Automation System | |
| Replace filters with minimum MERV 13 | |
| Install two (2) temperature sensors in each air handling unit | |
| Perform a certified full system test and balance | |
| Sub-total: | |
| Allowances: | |
| Repair/replacement of non-functioning components/devices | |
| Resolve ventilation deficiencies after T&B is performed, if required | |
| Project contingency | |
| Sub-total: | |
| System Maintenance: | |
| Annual maintenance contract for HVAC system, including BAS controls | |
| (3) year contract with option to renew up to (2) additional years | |
| Sub-total: | |
| Total | |

BIDDER QUALIFICATIONS:

The Contractor selected must demonstrate experience as an HVAC contractor responsible for the implementation of at least two (2) projects of comparable size and complexity within the past five (5) years. In addition, bidders will be required to include in their bid submissions general information regarding the company's management and operations, financial resources, and a history of commenced and completed projects to support said requirements. Any and all documentation submitted to support these requirements will be subject to verification by County staff.

For additional information, please contact Eduardo Vivas, Construction Projects Manager, at (305) 375-5064.

2. AHUs

- a. Manufactured by The Trane Company in Clarksville, Tennessee on or about 2010. The AHUs are the original units installed during construction of the building.
- b. VFD's on AHU motor supplying air to VAV boxes.
- c. The AHU exterior is in good condition.
- d. The evaporator coils are in good condition.
- e. The chilled water piping and insulation are in good condition.
- f. Outside air is being provided through O/A intake louvers ducted to the AHU's.
- g. The AHU's are in dedicated mechanical rooms. The rooms are maintained clean and clear of any obstructions or items not related to the environmental systems.

3. Ventilation:

- a. Outside air is being introduced to the AHU mixed with return air and conditioned before it is distributed to the occupied space.
- b. In accordance with the approved construction documents, the outside air is providing ventilation to dilute indoor air reducing contaminate in the space. The outside air is also used to pressurize the space to prevent infiltration of untreated air.
- c. The amount of outside air being introduced through the AHU was not confirmed.

4. Controls:

The SMDCAC environmental systems are controlled by a Trane Tracer BAS system circa 2010. The system is accessed through a computer located in an office in the main building. In addition, the chillers and pumps, the AHUs and VAV boxes are controlled through the BAS system. The computer should provide full access and adjustment of set points by the authorized user.

The existing BAS system runs on a proprietary protocol providing limited communication capabilities. The system is not providing the necessary access to information and control of the environmental systems. Additionally, devices connected to the are not being controlled as intended. This is due to a lack of communication between the controller and the device, device malfunction, device actuator malfunction or controller malfunction. Adequate resolution of issues is precluded due to the lack of manufacturer support for the antiquated system. The current system is missing features that are available with newer BAS. These include remote web access and communication, trending, maintenance schedules, and alerts. These features were not available at the time of installation and commissioning in 2011, and upgrades to the existing system are not provided.

CONCLUSIONS

1. The AHUs serving the SMDCAC are in good condition. They have approximately 20 years useful life remaining if properly maintained.
2. The chilled water piping is in good condition. Approximate 20 years useful life remaining.
3. The air-cooled chillers are in good condition. Approximate 15 years useful life remaining.

4. The ventilation and pressurization of the facility needs to be verified. Proper outdoor air is critical to maintaining adequate indoor air quality, and ASHRAE Position Document on Infectious Aerosols.
5. BAS is not functioning properly and needs to be replaced. Device actuators require verification and/or adjustment for proper operation.
6. Equipment, fans, dampers, valves, and appurtenances operation need verification and/or adjustment. Replacement as needed.

ENGINEERS' RECOMMENDATIONS

1. Verify operation of existing equipment, valves, dampers, etc. that are currently being controlled or monitored by the BAS.
2. Replace any non-functional or damaged component found during functionality verification.
3. Replace filters with minimum MERV 13 as recommended in ASHRAE 2020 Position Document on Infectious Aerosols.
4. All end devices controlled by the BAS need to be verified for functionality. Adjust, repair, or replace devices as needed.
5. BAS needs upgrade/replacement.
6. Once filtration is in place, equipment and device operation have been verified and are functional with the new BAS, provide test and balance of the system air and hydronics.
7. The system needs to be tested and balanced by an independent third party, certified test, and balance agency. This will ensure the equipment and accessories are functioning in accordance with the design intent and adequate airflows are being provided.

Scope of Services Requested

A. Building Automation System Controls Upgrade

1. **Upgrade/replacement of the building management control** system per engineer's recommendations above. Bidders are requested to propose a fully functioning turn-key system including engineering, hardware and software, materials, installation, wiring, testing, user training, warranty, etc. and coordination with existing Siemens' fire alarm system. New system shall recreate the existing sequences of operation for all equipment currently under BAS control.
2. System **assessment and repair/replacement** of non-functioning components and devices (sensors, actuators, valves, dampers, fire/smoke dampers, fans, etc.).
3. Replace **filters** with minimum MERV 13 filters per engineer's recommendations.
- 4.
5. The contractor shall **install two (2) temperature sensors** in each air handling unit as per air handling unit control diagram in sheet M-4.0. The temperature of all air handling shall be controlled by the BAS system allowing the system administrator to change set points as required.

6. **System test and balance.**

7. **System Troubleshooting:** The owner has experienced several irregularities with the ventilation controls which reflect an unbalanced air flow in certain spaces in the back of the house (BOH) in the main theater lobby and within the theater itself, causing doors to swing shut or open with greater force than code permits and causing the stage curtains to fly forwards the audience and/or show undesired movement during performances. If this condition remains after the above tasks are performed, the contractor shall assist the design engineer to troubleshoot these irregular ventilation conditions after the test and balance is completed and shall assist in developing a scope for modification to the contract for implementation of the new designed solution within the awarded contract. The design engineer, after input and coordination with the control contractor, may design additional equipment required for the proper ventilation distribution and the contractor may be required to perform the additional work as an additional service.

B. HVAC Equipment Maintenance

1. Provide scheduled **maintenance** and emergency services for all facility HVAC system components, including all labor, supervision, equipment, and materials necessary to repair, replace, supply, install or rent HVAC Equipment and BAS controls and related components.
2. The contract will be issued for a period of one year with an option to renew every following year up to a total of five years.
3. Bidder must hold a current certification from one of the following organizations: - National Environmental Balancing Bureau (NEBB), or Associated Air Balance Council (AABC)
4. Bidder must be a State of Florida Mechanical or Class "A" Air Conditioning Contractor. Copy of either license shall be provided with the bid submittal.

Testing, Adjusting and Balancing (TAB) HVAC equipment

- The bidder must be regularly engaged in the business of testing, adjusting and balancing HVAC equipment. Two (2) current references, consisting of existing customers, shall be listed in the submittal form. The references listed must be customers that are currently receiving or have recently received from the bidder the products and services described in this group. The references must include the customer's company name, and the name, title, e-mail address, and telephone number of the contact person who can verify that the bidder has successfully provided the products and services that will be solicited in subsequent quotes and defined in this RTQ. These references shall ascertain to the County's satisfaction that the bidder has sufficient experience and expertise in the TAB HVAC industry.

Repair, replace, supply, install and/or rent HVAC Equipment and Controls

The bidder must be regularly engaged in the business of repairing, replacing, supplying and/or installing HVAC equipment and controls. Two (2) current references, consisting of existing customers, shall be listed in the proposal. The references listed must be customers that are currently receiving or have recently received from the bidder the products and services described in this group. The references must include the customer's company name, and the name, title, e-mail address, and telephone number of the contact person who can verify that the bidder has successfully provided the products and services that will be solicited in subsequent

| Mark | Design CFM | | Heating Capacity | | Heater Electrical Service | Control Circuit Electrical Service | Design Manufacturer: NAILOR | | Remarks |
|----------|------------|------|------------------|-----|---------------------------|------------------------------------|-----------------------------|--|---|
| | MAX. | MIN. | MBH | KW | | | Model No. | | |
| VAV-4-18 | 960 | 385 | 8.5 | 3.0 | 277/1/60 | 120/1/60 | 3001-10 | | W/Standard Discharge Attenuator and Electric Heater |
| VAV-4-19 | 190 | 150 | 3.3 | 1.0 | 277/1/60 | 120/1/60 | 3001-5 | | W/Standard Discharge Attenuator and Electric Heater |
| VAV-4-20 | 1710 | 640 | 14.0 | 4.0 | 277/1/60 | 120/1/60 | 3001-12 | | W/Standard Discharge Attenuator and Electric Heater |
| VAV-5-1* | 1130 | 450 | 9.9 | 3.0 | 277/1/60 | 120/1/60 | 3001-9 | | W/Standard Discharge Attenuator and Electric Heater |
| VAV-5-2* | 3090 | 1200 | 26.4 | 8.0 | 277/1/60 | 120/1/60 | 3001-16 | | W/Standard Discharge Attenuator and Electric Heater |
| VAV-5-3* | 3140 | 1300 | 28.6 | 8.0 | 277/1/60 | 120/1/60 | 3001-16 | | W/Standard Discharge Attenuator and Electric Heater |
| VAV-5-4* | 3140 | 1300 | 28.6 | 8.0 | 277/1/60 | 120/1/60 | 3001-6 | | W/Standard Discharge Attenuator and Electric Heater |
| VAV-5-5* | 1800 | 720 | 15.8 | 5.0 | 277/1/60 | 120/1/60 | 3001-12 | | W/Standard Discharge Attenuator and Electric Heater |
| VAV-5-6* | 750 | 280 | 6.1 | 2.0 | 277/1/60 | 120/1/60 | 3001-8 | | W/Standard Discharge Attenuator and Electric Heater |
| VAV-5-7* | 3075 | 1250 | 27.5 | 8.0 | 277/1/60 | 120/1/60 | 3001-16 | | W/Standard Discharge Attenuator and Electric Heater |
| VAV-5-8* | 3075 | 1250 | 27.5 | 8.0 | 277/1/60 | 120/1/60 | 3001-16 | | W/Standard Discharge Attenuator and Electric Heater |

| MULTI SPLIT SYSTEM EQUIPMENT SCHEDULE (THEATER BUILDING) | | | | |
|--|---------------------------------|---------------|---------------------|---------------|
| Area Served | | | | |
| Box Office 170 | | | | |
| Air Handling Unit | Unit Tag | | Indoor Unit 1-1 | |
| | Unit Type | | Concealed Duct Type | |
| | Manufacturer | | Sanyo | |
| | Model | | UHX1852 | |
| | Supply air Flow (CFM) | | 420/370/320 | |
| | Total Cooling Capacity (MBH) | | 19,000 | |
| | Cooling Load (Tons) | | 1.5 | |
| | Total Heating Capacity (MBH) | | 21,000 | |
| Condensing Unit | Electrical Service (Volt/PH/Hz) | | 208/1/60 | |
| | Unit Tag | | Outdoor Unit-3 | |
| | Manufacturer | | Sanyo | |
| | Model | | CHX03652 | |
| Total Cooling/Heating Capacity (MBH) | | 39,000/42,500 | | |
| MULTI SPLIT SYSTEM EQUIPMENT SCHEDULE (THEATER BUILDING) | | | | |
| Area Served | | | | |
| | | Telecom Room | Dimmer Room | Control Booth |
| Air Handling Unit | Unit Tag | | AC-2-1 | AC-2-2 |
| | Unit Type | | Wall Mounted | |
| | Manufacturer | | Sanyo | |
| | Model | | KHX2452 | KHX0752 |
| | Supply air Flow (CFM) | | 353/495/565 | 212/282/353 |
| | Total Cooling Capacity (MBH) | | 25,000 | 7,500 |

| | | | |
|-----------------|--------------------------------------|---------------|-------|
| | Cooling Load (Tons) | 2.0 | 0.5 |
| | Total Heating Capacity (MBH) | 27,000 | 8,500 |
| | Electrical Service (Volt/PH/Hz) | 208/1/60 | |
| Condensing Unit | Unit Tag | CU-2 | |
| | Manufacturer | Sanyo | |
| | Model | CHX03652 | |
| | Total Cooling/Heating Capacity (MBH) | 39,000/42,500 | |

SPLIT SYSTEM EQUIPMENT SCHEDULE (THEATER BUILDING)

| | | | |
|-------------------|---------------------------------|-----------------|--|
| Area Served | Dimmer Room 225 | | |
| Air Handling Unit | Unit Tag | AC-2-4 | |
| | Unit Type | Duct Free Split | |
| | Manufacturer | Carrier | |
| | Model | 40BCN-024 | |
| | Supply air Flow (CFM) | 580, 680, 780 | |
| | Total Cooling Capacity (MBH) | 24,000 | |
| | Cooling Load (Tons) | 1.5 | |
| | Total Heating Capacity (MBH) | N/A | |
| | Electrical Service (Volt/PH/Hz) | 208/1/60 | |
| Condensing Unit | Unit Tag | CU-3 | |
| | Manufacturer | Carrier | |
| | Model | 38BNC024 | |
| | Nominal Tonnage (Tons) | 2.0 | |

SPLIT SYSTEM EQUIPMENT SCHEDULE (THEATER BUILDING)

| | | | |
|-------------------|---------------------------------|-----------------|--|
| Area Served | Audio Room (501) | | |
| Air Handling Unit | Unit Tag | AC-1 | |
| | Unit Type | Duct Free Split | |
| | Manufacturer | Carrier | |
| | Model | 40BNC-018 | |
| | Supply air Flow (CFM) | 460 | |
| | Total Cooling Capacity (MBH) | 18,000 | |
| | Cooling Load (Tons) | 1.5 | |
| | Total Heating Capacity (MBH) | N/A | |
| | Electrical Service (Volt/PH/Hz) | 115/1/60 | |
| Condensing Unit | Unit Tag | CU-1 | |
| | Manufacturer | Carrier | |
| | Model | 38BNC018 | |
| | Nominal Tonnage (Tons) | 1.5 | |

AIR COOLED CONDESERS SCHEDULE (ACTIVITIES BUILDING)

| | | | |
|-----------------|------------------------|------------|------------|
| | | | |
| Condensing Unit | Unit Tag | CU-1 | CU-2 |
| | Manufacturer | Trane | Trane |
| | Model | RAUCC304BY | RAUCC304BY |
| | Serial # | CO7F06118 | CO7F06119 |
| | Year | 2020 | 2020 |
| | Nominal Tonnage (Tons) | 40 | 40 |

- Additional Minor Product Categories Include:

- Dehumidifiers
- Package Terminal ACs
- Window/Wall Mount A/Cs.
- Portable Air Conditioners
- Dehumidifiers
- Air Purifiers
- Humidifiers
- Portable Fans
- Space Heaters

- Brands:

- Amana
- American Comfort
- Carrier
- Comfort-Aire
- Friedrich
- G.E.
- Honeywell
- LG
- Sharp
- Soleus Air
- SPT
- Trane
- Thermal Zone

Regular Labor, Materials & Mark Ups for Scheduled Operations Maintenance

- The cost of parts and materials shall not exceed a 10% mark-up from the bidder's actual cost. A copy of the bidder's invoice from the supplier for parts and materials shall be submitted with the invoice for payment. In cases where the bidder manufactures its own parts, the bidder will charge the County a price no higher than what their firm charges their most favored customer. The County reserves the right to request verification.
- Bidder shall provide the hourly rates with the bid. The hourly rate(s) quoted shall be deemed to provide full compensation to the bidder for labor, equipment use, and travel time.
- Hourly Rates will be valid one year from the award of this solicitation. The bidder may submit revised hourly rates sixty (60) calendar days prior to the anniversary of the contract term. If no revised hourly rates are received, the County will assume that the bidder has agreed not to request a price adjustment. Any adjustment request received after the anniversary of the contract term may not be considered. No adjustment requests will be considered without a minimum 60-day advance notification.

Emergency and Repairs (Undefined Scope of Services)

- Bidders may be required to respond to emergencies or repairs where the scope of services is undefined. The bidder will be required to perform time and material services based on established rates and mark-up percentage.
- The facilities requesting emergency services under this agreement engaged in public performances for arts and culture during nights and weekends and will require the response

time on emergencies to be on-site within 4 hours when the call is placed and designated by the operations team as an emergency call. Failure to respond may be cause for termination of the agreement.

- The cost of parts and materials shall not exceed a 10% mark-up from the bidder's actual cost. A copy of the bidder's invoice from the supplier for parts and materials shall be submitted with the invoice for payment. In cases where the bidder manufactures its own parts, the bidder will charge the County a price no higher than what their firm charges their most favored customer. The County reserves the right to request verification.
- Bidder shall provide the hourly rates with the bid. The hourly rate(s) quoted shall be deemed to provide full compensation to the bidder for labor, equipment use, and travel time.
- Hourly Rates will be valid one year from the award of this solicitation. The bidder may submit revised hourly rates sixty (60) calendar days prior to the anniversary of the contract term. If no revised hourly rates are received, the County will assume that the bidder has agreed not to request a price adjustment. Any adjustment request received after the anniversary of the contract term may not be considered. No adjustment requests will be considered without a minimum 60-day advance notification.

RFP/RFQ Requirements:

- Bidders shall participate in a mandatory site walk-through.
- Design documents for the BAS improvements and as-built drawings for HVAC equipment maintenance proposals will be made available to interested bidders via Drop Box.
- Engineer will be made available to answer questions from bidders regarding the BAS improvements and to help evaluate proposals.
- Bidder must be a State of Florida Mechanical or Class "A" Air Conditioning Contractor. Copy of either license shall be provided with the bid submittal.
-
- The bidder must be regularly engaged in the business of repairing, replacing, supplying and/or installing HVAC equipment and controls. Two (2) current references, consisting of existing customers, shall be listed in the proposal. The references listed must be customers that are currently receiving or have recently received from the bidder the products and services described in this solicitation. The references must include the customer's company name, and the name, title, e-mail address, and telephone number of the contact person who can verify that the bidder has successfully provided the products and services. These references shall ascertain to the County's satisfaction that the bidder has sufficient experience and expertise in the HVAC and controls industry.
- Testing and balancing shall be performed by an entity that holds a current certification from one of the following organizations: - National Environmental Balancing Bureau (NEBB), or Associated Air Balance Council (AABC)
-
- Bidder shall maintain an office equipped with modern office equipment, including an e-mail address, and emergency contact mobile phone(s). Either resource must be available to provide immediate support. The bidder's office address, phone and e-mail address shall be included in their bid proposal.

- Bidders shall provide a list of authorized staff who can be contacted to discuss matters pertaining to any purchased products/services, resolve billing and delivery inquiries, and who are cognizant of the HVAC and controls industry.

from the AHU through variable air volume (VAV) boxes. The conditioned air is distributed to the spaces through duct work from the VAV boxes serving individual zones. The existing BAS system runs on a proprietary protocol providing limited communication capabilities.

Findings: The system is not providing the necessary access to information and control of the environmental systems. Additionally, devices connected to the BAS are not being controlled as intended. This is due to a lack of communication between the controller and the device, device malfunction, device actuator malfunction or controller malfunction. Adequate resolution of issues is precluded due to the lack of manufacturer support for the outdated system. The current system is missing features that are available with newer BAS. These include remote web access and communication, trending, maintenance schedules, and alerts. These features were not available at the time of installation and commissioning in 2011, and upgrades to the existing system are not provided making it unsupported by service companies and obsolete.

BAS UPGRADE - SCOPE

The basic scope of the work of the existing building automation system includes, but is not limited to:

- Upgrade/replacement of the Building Automation System components per engineer's recommendations included in the design documents. Bidders are requested to propose a fully functioning turn-key system including engineering, hardware and software, materials, installation, wiring, testing, user training, warranty, etc. and coordination with existing Siemens' fire alarm system. New system shall recreate the existing sequences of operation for all equipment currently under BAS control.
- System assessment and repair/replacement of non-functioning components/devices (sensors, actuators, valves, dampers, fire/smoke dampers, fans, etc.).
- Replace filters with minimum MERV 13 filters per engineer's recommendations.
- Perform a certified full system test and balance upon completion of the work
- The contractor shall install two (2) temperature sensors in each air handling unit as per air handling unit control diagram in sheet M-4.0. The temperature of all air handling shall be controlled by the bas system allowing the system administrator to change set points as required.
- The owner has experienced several irregularities with the ventilation controls which reflect an unbalanced air flow in certain spaces in the back of the house (BOH) in the main theater lobby and within the theater itself, causing doors to swing shut or open with greater force than code permits and causing the stage curtains to fly forwards the audience and/or show undesired movement during performances. The contractor shall assist the design engineer to troubleshoot these irregular ventilation conditions after the test and balance is completed and shall assist in developing a scope for modification to the contract for implementation of the new designed solution within the awarded contract. The design engineer, after input and coordination with the control contractor, may design additional equipment required for the proper ventilation distribution and the contractor may be required to perform the additional work as a modification to the base contract.
- Provide scheduled maintenance and emergency service contract for HVAC system and equipment maintenance, including BMS controls for a three (3) year period with an option to renew for two (2) additional years.