SECTION 00 1113

NOTICE TO BIDDERS

RFB # 0919335076R

The Iowa Department of Administrative Services - Central Procurement Bureau, Hoover State Office Building, Level 3, 1305 East Walnut Street, Des Moines, Iowa 50319 will be receiving bids for Skylights, Roof and Storm Piping Replacement at the State Historical Building, 600 East Locust Street, Des Moines, Iowa 50309.

The Iowa Department of Administrative Services anticipates construction to begin on July 8, 2019 and end on May 8, 2020.

Bids must be received no later than **2:00 pm, local time, Thursday, April 11, 2019**. Late bids will not be considered. Bids are to be delivered to the Office of the Department of Administrative Services - Central Procurement Bureau, Hoover State Office Building, Level 3, 1305 East Walnut Street, Des Moines, Iowa, 50319. Bids shall be submitted on the Bid Form and shall be accompanied by a Bid Security as set forth in the Instructions to Bidders in the amount of five percent (5%) of the total bid amount. Each bid shall be accompanied by a bid bond, cashier's check, or certified check drawn upon a solvent bank chartered under the laws of the United States of America. If providing bid security in forms other than a bid bond, then the bid must be hand delivered.

The Iowa Department of Administrative Services reserves the right to reject any and all bids, and to waive irregularities and to accept a bid that is deemed in the best interest of the State of Iowa.

Bidders must comply with all affirmative action/equal employment opportunity provisions of the State of Iowa and the Federal Government.

This project is exempt from Iowa Sales Tax. Davis Bacon Wages **will not** apply to this project.

An **optional** Pre-Bid meeting will be held on **Wednesday, March 27, 2019 at 2:00 p.m.** at the State Historical Building, Classroom A/B, 3rd Floor West, at 600 East Locust Street, Des Moines, Iowa 50309. A building walkthrough will follow the meeting. This meeting is not mandatory but is highly recommended.

Bidding Documents may be obtained from Beeline & Blue by visiting www.beelineandblue.com or by calling (515) 244-1611 on Thursday, March 14, 2019.

For further information regarding this project contact:
Steve Oberbroeckling - Issuing Officer
Iowa Department of Administrative Services - Central Procurement Bureau
1305 East Walnut Street
Des Moines, Iowa 50319
Phone: (515) 725-2090
E-Mail: steve.oberbroeckling@iowa.gov

END OF SECTION

3. Rockbestos-Suprenant Cable Corp.
4. West Penn Wire/CDT.
5. Radix.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install system in accordance with manufacturer's instructions and referenced codes.

B. Devices:

1. General:
   a. All ceiling-mounted devices shall be located where shown on the reflected ceiling and floor plans. If not shown on the reflected ceiling or reflected floor drawings, the devices shall be installed in the relative locations shown on the floor drawings in a neat and uniform pattern.
   b. All devices shall be coordinated with luminaires, diffusers, sprinkler heads, piping and other obstructions to maintain a neat and operable installation. Mounting locations and spacing shall not exceed the requirements of NFPA 72.
   c. Where the devices are to be installed in a grid type ceiling system, the detectors shall be centered in the ceiling tile.
   d. The location of all fire alarm devices shall be coordinated with other devices mounted in the proximity. Where a conflict arises with other items or with architectural elements that will not allow the device to be mounted at the location or height shown, the Contractor shall notify the Architect/Engineer to coordinate a different acceptable location adjust location of device so that new location meets all requirements in NFPA 72 and all applicable building codes.
2. Per the requirements of NFPA, detector heads shall not be installed until after the final construction cleaning unless required by the local Authority Having Jurisdiction (AHJ). If detector heads must be installed prior to final cleaning (for partial occupancy, to monitor finished areas or as otherwise required by the AHJ), they shall not be installed until after the fire alarm panel is installed, with wires terminated, ready for operation. Any detector head installed prior to the final construction cleaning shall be removed and cleaned prior to closeout.
3. Notification Appliance Devices:
   a. Devices shall be located where shown on the drawings.
   b. Wall-mounted audio, visual and audio/visual alarm devices shall be mounted as denoted on the drawings.

C. Wiring:

1. Fire alarm wiring/cabling shall be provided by the Contractor in accordance with the manufacturer’s recommendations and pursuant to National Fire Codes.
2. Wiring shall be installed in conduit.
3. All junction boxes with SLC and NAC circuits shall be identified on cover.
4. Notification Appliance Circuits shall provide the features listed below. These requirements may require separate circuits for visual and audible devices.
   a. Fire alarm temporal audible notification for all audio appliances.
   b. Synchronization of all visual devices where two or more devices are visible from the same location.
   c. Ability to silence audible alarm while maintaining visual device operation.

5. Signal line circuits connecting devices shall not span floors or two-hour smoke compartments.

6. No wiring other than that directly associated with fire alarm detection, alarm or auxiliary fire protection functions shall be in fire alarm conduits. Wiring splices shall be avoided to the extent possible, and if needed, they shall be made only in junction boxes, and enclosed by plastic wire nut type connectors. Transposing or changing color coding of wires shall not be permitted. All conductors in conduit containing more than one wire shall be labeled on each end, in all junction boxes, and at each device with “E-Z Markers” or equivalent. Conductors in cabinets shall be carefully formed and harnessed so that each drops off directly opposite to its terminal. Cabinet terminals shall be numbered and coded, and no unterminated conductors are permitted in cabinets or control panels. All controls, function switches, etc. shall be clearly labeled on all equipment panels.

D. Fire Alarm Cabling Color Code: Provide circuit conductors with insulation color coding as follows or using colored tape at each conductor termination and in each junction box.

1. Power branch circuit conductors: In accordance with Section 26 05 53.

2. Signaling line circuit: Overall red jacket with black and red conductors.

3. DC power supply circuit: Overall red jacket with violet and brown conductors.

4. Notification appliance circuit: Overall red jacket with blue and white conductors.

5. Door release circuit: Gray conductors.

6. Central station trip circuit: Orange conductors.

7. Central station fire alarm loop: Black and white conductors.

E. Devices surface mounted in finished areas shall be mounted on surface backboxes furnished by fire alarm equipment supplier. Backboxes shall be painted to match device, shall be the same shape and size as the device shall not have visible knockouts.

F. Make conduit and wiring connections to door release devices, sprinkler flow and pressure switches, sprinkler valve monitor switches, fire suppression system control panels, duct analog smoke detectors and all other system devices shown or noted on the Contract Documents or required in the manufacturer's product data and shop drawings.

3.2 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 26 05 00.

B. Test in accordance with NFPA 72, Chapter 14 and local fire department requirements. Submit documentation with O & M manuals in accordance with Section 14.6 of the Code.

C. Contractor shall test and adjust the fire alarm system as follows:

1. Speaker taps shall be adjusted to the lowest tap setting which achieves a sound level higher than or equal to the greatest of the following:

a. 70dBA.

b. 15 dBA above ambient levels as indicated in NFPA 72 Table A.18.4.3.

c. 15 dBA above measured ambient. 5 dBA above the maximum measured sound level with duration of more than 60 seconds.

d. As specified on the drawings.

2. Sound level measurement procedure shall meet the following requirements:

a. All measurements shall use the 'A' weighted, dBA, sound measurement scale.

b. All measurements shall be taken after furnishings, wall coverings and floor coverings are in place.

c. All measurements shall be taken after fixed equipment (HVAC units, etc.) producing ambient noise is installed and is in operation.

d. All sound level measurements shall be taken at a height of 5' above the finished floor level.

e. Measurements shall be taken in every unique room. If there are multiple rooms, which have the identical dimensions and function, 10%, or a minimum of 2 rooms shall be tested. The results from the rooms tested shall be averaged and the remaining rooms may be adjusted per the average.

f. Measurements shall be taken on a 20' x 20' grid and the results for all points taken shall be averaged. If the room is smaller than 20' x 20' a minimum of two measurements are required.

g. Measurements shall be taken halfway between speakers or halfway between a speaker and the wall. No measurements shall be taken at the extreme edges of the room, nor directly under speakers.

3.3 MANUFACTURER'S FIELD SERVICES

A. Provide manufacturer's field services under provisions of Section 26 05 00.

B. Include services of certified technician to supervise installation, adjustments, final connections, and system testing.

C. Note that room numbers depicted on the architectural/engineering drawings will not necessarily reflect the actual room (signage) numbers that the Owner selects. The Contractor and fire alarm manufacturer shall coordinate the actual room numbers as the Owner directs to identify each device. This list shall be a part of the floor plan record drawing to be turned in at the project closeout.

END OF SECTION

SECTION 28 31 50 - AIR SAMPLING SMOKE DETECTION SYSTEMS (ASSD)

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Air Sampling Smoke Detector **[ASSD-#]**

B. Piping Network

1.2 REFERENCES

A. NFPA 72 - National Fire Alarm Code

B. NFPA 101 - Life Safety Code

1.3 SUBMITTALS

A. Submit shop drawings and product data under provisions of Section 26 05 00.

B. Provide product data showing the type, size, rating, style, catalog number, manufacturers' names, photos, and/or catalog data sheets for all items to ensure compliance with these specifications.

C. Submit CAD shop drawings of the complete layout of the entire system, showing wiring and all equipment. The CAD wiring diagram shall be submitted as a shop drawing. Reproduction of contract drawings is not acceptable.

D. Provide shop drawings indicating air sampling network piping, routing of piping, sizes of piping, sample point locations and sizes, and system components.

E. All air sampling pipe routing must be submitted to and approved by the Architect/Engineer. The routing must be coordinated with mechanical ductwork. Obtain a shop drawing of mechanical ductwork for coordination purposes from the Mechanical Contractor.

F. Provide manufacturer's installation directions.

G. Submit sequence of operation and verification of operation by manufacturer.

H. Provide installation and maintenance manuals under provisions of Section 26 05 00.

I. Submit manufacturer's certificate that system meets or exceeds specified requirements.

J. Provide information on the system batteries as follows:

1. Total battery capacity
2. Total capacity used by all devices on this project
3. Total available future capacity.

K. Provide piping calculations.

L. All shop drawings and system calculations shall be submitted to the following:

1. The authority having jurisdiction for review and approval.
2. Architect/Engineer for review and approval.

M. Submit graphical map layout.

1.4 EXTRA MATERIALS

A. Provide spare parts under provisions of Section 26 05 00.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site under provisions of Section 26 05 00.

B. Store and protect products under provisions of Section 26 05 00.

1.6 REGULATORY REQUIREMENTS

A. System: UL and FM listed.

B. Conform to requirements of NFPA 10

C. Conform to requirements of Americans with Disabilities Act (ADA)

1.7 SYSTEM DESCRIPTION

A. Smoke Detection System: Type; air sampling with CPVC piping and sampling points with laser type detector.

B. Modify piping to areas show on drawings. The system shall include, but not be limited to, detector assemblies, remote display units, power supplies, batteries, air pipe sampling network, and necessary hardware and interface to building fire alarm system.

C. System Supervision: Provide an electronically-supervised system, with supervised communications between detectors and to a computerized head-end system.

D. Detectors shall communicate directly with addressable fire alarm control panel for annunciation and notification by activating horns and strobe lights.

E. Extent of ASSD system work is shown on drawings. The equipment supplier shall be responsible for a complete and operational system including but not limited to ceiling level detection, programming software and graphical user interface software.

F. Provide system suitable for type and occupancy as defined by local building codes and as approved by local Fire Marshal.

G. Provide all sampling pipes and fittings and install all other associated equipment and devices to properly install sampling pipe.

H. Air sampling smoke detection system shall not be used for HVAC shutdown as required by mechanical and electrical codes.

1.8 QUALIFICATIONS

A. Manufacturer: Company specializing in fire detection and fire alarm systems with five (5) years documented experience.

B. Installer/Supplier:

1. Company specializing in fire detection and fire alarm systems with five (5) years documented experience.

2. Company with certified factory trained personnel. Installers must be certified for design of complete system by the system manufacturer Vision Systems, Inc.

1.9 PROJECT RECORD DOCUMENTS

A. Submit documents under the provisions of Section 26 05 00.

B. Provide a CAD drawing of each area of the building, at a maximum sheet size of 11" x 17" showing each device on the project. The devices shall be shown in their installed location and shall be labeled with the same nomenclature as is used in the fire alarm panel programming.

1.10 OPERATION AND MAINTENANCE DATA

A. Submit data under provisions of Section 26 05 00.

B. Include operating instructions and maintenance and repair procedures.

C. Include results of testing of all devices and functions.

D. Include manufacturer’s representative's letter stating that system is operational.

E. Include the CAD floor plan drawings.

1.11 WARRANTY

A. Provide one (1) year warranty on all materials and labor.

B. Warranty requirements shall include furnishing and installing all software upgrades issued by the manufacturer during the one (1) year warranty period.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Vision Systems, Inc., Model VESDA LaserSCANNER. (Existing to remain).

2.2 AIR SAMPLING SMOKE DETECTION SYSTEM EQUIPMENT

A. Detector Control Panel: Existing to remain.

B. Interface:

1. Provide the necessary hardware to interface all detectors and display units.
2. Provide necessary interface contacts to the addressable fire alarm control panel for notification purposes. The Installing Contractor shall provide conduit, wire, and terminations.
3. Provide necessary interface contacts to the building alarm system. Conduit, wire and terminations shall be provided by the Installing Contractor.

C. Piping Network:

1. The detector locations shall be as shown on the systems drawings. The system supplier shall determine exact quantities of detectors. Alternate locations may be considered based on information from the system supplier after the suppler is selected.
2. The network shall consist of sampling pipe and all associated elbows, tees and end caps as required. Sampling points shall be pre-drilled prior to installation at locations determined by system calculations.
3. The transport time from the farthest sampling point to the detector shall not exceed 120 seconds.

D. Piping Materials:

1. The sampling pipe shall consist of post chlorinated polyvinyl chloride (CPVC) material. The use of EMT conduit, copper tubing or PVC products are not permitted.
2. The size of the sampling pipe shall be 1/2 inch, 3/4 inch, or 1 inch nominal inside diameter as determined by the system calculations. Pipe sizes shall be determined by the system manufacturer. Calculations shall be submitted with shop drawings.
3. Acceptable Manufacturers:
   a. Blaze Master as manufactured by B. F. Goodrich Co.
   b. Flameaway as manufactured by Grinnell Co.
   c. VESDA pipe as manufactured by Vision Systems Inc.
4. The color of all material shall be orange.
5. Painting of sampling pipe is prohibited.
6. Pipe shall meet or exceed the requirements of ASTM F442 in standard dimension ratio 15.
7. Fittings shall meet or exceed the requirements of ASTM F437, ASTM F438 and ASTM F439 for Schedule 80 threaded, Schedule 40 socketed and Schedule 80 socketed, respectively.

8. All socket type joints shall use primers and solvent cements. Primers and solvents shall be listed by the National Sanitation Foundation (NSF) for use with potable water and be approved by the CPVC manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Detector Control Panel:

1. Install control panel and remote display unit where shown on the drawings.
2. All expansion compartments, if required, shall be located at the control panel.
3. Detachable airtight connects shall be used at the detector enclosure. The sampling pipe shall terminate within 18 inches of the detectors inlet openings and be mechanically fastened to the building. The sampling pipe shall then be connected to the detector by a piece of flexible clear vinyl tubing, not exceeding 24 inches in length, with the same internal diameter as the sampling pipe. The sampling pipe and air tube shall be equipped with detachable couplings.

B. Piping at Ceiling Level:

1. Piping shall be supported with mechanical pipe hangers attached to the structure of the building. Attaching sampling pipes to cable trays, ductwork, telecommunications equipment, light fixtures, etc., is strictly prohibited.
2. Hangers and fasteners must be of the appropriate size for supporting the piping without distorting the pipes.
3. The use of non-mechanical hangers or fasteners, such as adhesives, is prohibited.
4. Piping shall be installed as close as practical to structural ceiling. Coordinate installation with mechanical ductwork shop drawings prior to installation of any piping.
5. Piping shall be clearly labeled with adhesive labels every five feet. Labels shall be facing downward and be visible from the floor level.
6. Parallel sampling pipes shall be no more than 30 feet apart.
7. The layout of the piping at ceiling level shall match the layout of the underfloor layout.
8. Each pipe run shall not cover more than 5,000 square feet.
9. Sampling points shall be drilled directly into the pipe and be directed downward. They shall be within 6 inches of the underside of the ceiling above.
10. Sampling points shall be clearly marked with a wrap-around label.
11. There shall be one or more sampling points for every 400 square feet of floor area. Each sampling point shall cover no more than 400 square feet of area.
12. Sampling points shall not be more than 20 feet apart. Sampling points located closest to walls shall not be greater than 12 feet from the wall, or half the distance between columns, whichever is less.
13. All areas shall be covered by sampling points including alcoves, ceiling cavities, etc.
14. All sampling points shall be located so they are more than 12 inches above any horizontal obstruction such as ductwork or cable tray, that is located directly below the sampling point, and are three feet clear of all supply air registers and/or air flows.
15. All branch lines shall have a threaded removable end cap for maintenance back flushing of the system.

16. All sampling pipe shall be cleaned inside and outside and joined together using approved methods and materials.
17. Painting of sampling pipe is prohibited.

C. Software and Hardware:
1. The equipment supplier shall provide programming in the graphical user interface software to show a graphical display of the floor, detector location, and piping layout. The screens shall also mimic the display panel located on the detector.

D. Graphic Air Sampling Smoke Detection Map:
1. A graphical map of the air sampling smoke detection system shall be provided and placed at each detector and display unit, whether new or existing.
2. The map shall be a full color image on an 11"x17" background. The background shall be white and mounted on a rigid backing.
3. The graphic shall be laminated with an ultraviolet inhibitor.
4. Provide a clear, anti-glare LEXAN panel cover.
5. The entire graphic shall be housed in an aluminum frame.
6. Mount graphic adjacent to each detector.
7. The graphic shall include, but not be limited to, the following:
   a. Detection area outlined for each detector.
   b. Walls, doors, room names and room numbers.
   c. Locations of fire alarm control panels.
   d. Locations of detectors.
   e. Locations of all piping networks.
   f. Routing of air sampling pipes and sampling point locations.
   g. HVAC unit designations and return air grille locations.
   h. North reference arrow.
   i. A ‘YOU ARE HERE’ arrow for each map.
   j. Legend of devices and other symbols.

E. Testing:
1. Provide testing of the ASSD system.
2. Installing Contractor and equipment supplier shall be present.
3. Owner and Architect/Engineer shall be notified 72 hours in advance of commissioning of system and may attend.
4. The following tests shall be performed, documented, and submitted to the Architect/Engineer for review:
   a. Suction Pressure Test:
      1) At approximately 25% of the sampling holes the suction shall be measured using a magnahelic gage. The measured result shall be compared with the design calculations. If the measure suction deviates by more than 10%, the cause of the deviation shall be determined and corrected before the system is considered acceptable.
      2) The minimum permissible suction pressure shall not be less than 0.01 inches of water.
      3) At least two sampling points shall be tested in each pipe.

4) Each pipe shall have the nearest sampling point and the farthest sampling point tested.

b. Smoke Transportation Time:

1) The furthest sampling point in each pipe run shall be tested and its transportation time recorded until the detector indicate at least 20% above the normal levels.

2) The maximum permissible transportation time shall not exceed 120 seconds.

3) The transportation time shall not deviate by more than 10% from the design calculations. If the measure transportation time deviates by more than 10%, the cause of the deviation shall be determined and corrected before the system is considered acceptable.

c. After the system has been in operation for (1) week, the system thresholds and ambient contaminations levels shall be reviewed and adjusted to ensure no false alarms occur.

5. The Contractor shall coordinate the testing of each ASSD system with the fire department and submit a certification that each detector is operating properly and that all control panels, annunciators, and remote indicators are correctly indicating the device.

F. Building Fire Alarm Interface:

1. Provide dry contacts to notify the addressable building fire alarm system for the following:

a. Fire

b. Trouble

c. Low Battery Voltage

2. Provide addressable monitor modules for the existing building fire alarm system for the above items.

3.2 FIELD QUALITY CONTROL

A. Field inspection and testing shall be performed under provisions of Section 26 05 00.

B. Test in accordance with NFPA 72 and local fire department requirements.

C. Make connections to control panels under the supervision of the equipment supplier.

D. Where work consists of extending or adding to existing systems, ensure that the existing system is in proper working order prior to starting new work. If existing system is not working correctly or an existing condition conflicts the new work, notify the Architect/Engineer immediately. Where work is done without any notifications, the Contractor assumes responsibility that the existing system is complete and functional and the performance requirements and warranty set forth in these specifications will apply to the entire system.

3.3 MANUFACTURER'S FIELD SERVICES

A. Provide manufacturer's field services under provisions of Section 26 05 00.

B. Include services of certified technician to supervise installation, adjustments, final connections, and system testing.

C. Note that room numbers depicted on the architectural/engineering drawings will not necessarily reflect the actual room (signage) numbers that the Owner selects. The Contractor and fire alarm manufacturer shall coordinate the actual room numbers that the Owner directs to identify each device. This list shall be a part of the floor plan record drawing to be turned in at project closeout.

3.4 FIRE ALARM WIRE AND CABLE COLOR CODE

A. As specified by the ASSD system manufacturer.

B. Power Branch Circuit Conductors: As specified in Section 26 05 53.

C. Install wiring in raceways.

D. Install wires and cables without splices. Make connections at equipment terminals or on terminal strips mounted in enclosures of adequate size.

END OF SECTION