

## **Building Automation System (BAS) System Description**

- The intent of the specification included is to provide a Building Automation System (BAS) either by utilizing Siemens (Apogee) System, or Computrols (CBAS) System, therefore, incorporating direct digital control (DDC) for energy management, equipment monitoring and controls. This will be accomplished by open bidding the installation on new and large renovation projects. On small renovations, either the Associate, or the University will establish a BAS contractor allowance.
- Associate provides: contractor allowance, system architecture and design; a “Points List Summary Table” including names and address; panel layouts; point to point wiring diagrams; sequence of operation.
- BAS contractor shall provide all control equipment, engineering and programming of system configuration, power and auxiliary panels with their components. This work will be submitted in a “Schedule of Values” format provided by the university to include, ENG (engineering), PM (project management), Programming, Graphics, Panel Construction, CTS (check, test, start), FT (functional testing). All shall be provided using “State Term Pricing” on materials and labor.
- The University may choose to engineer and/or program particular projects of renovation and system additions.
- Connection of a building DDC panel to the University’s existing EMS (energy management system) host computer will be via trunk connection to the existing campus Ethernet.
- All low voltage electrical control wiring within mechanical rooms will be run in EMT conduit per specification, Division 16. All low voltage control wiring above accessible ceilings will be run in “J-hooks” or “Bridle Rings”.
- All temperature control systems installed shall be electronic, direct digital controls. Pneumatic controls shall only be permitted to control 2 1/2” or greater control valves. Each facility will be provided with the means to access the existing campus control system software via laptop.
- All VAV boxes with reheat will have the control valve and DDC controller mounted on the same side. A discharge air sensor will always be used in conjunction with a VAV box w/reheat.
- 2 (two) year parts and labor warranty shall be provided on every new installation.