SECTION 23 09 01: BUILDING AUTOMATION SYSTEMS

1. **GENERAL**

   A. This section contains information for design requirements for how BAS variable to be displayed, described, and alarmed on operator workstations

   B. Contractors are required to follow the BAS abbreviations for point naming conventions. The names embedded in the programming of each field controller to match the University's standard conventions. FM-Operations to furnish the "BAS Standard Abbreviations" listing upon request.

   C. Contractors are required to follow the BAS Graphics Standard. FM-Operations to furnish the "BAS Graphics Specification" listing upon request.

   D. Arrange all data listings, by building, in one of two folders listed as "Mechanical Systems" and "Rooms". Place sub-folders for each floor and primary system in these respective folders. Terminal equipment to be placed in the respective floor sub-folder and arranged by room number of the thermostat location.

   E. Point descriptions to include:
      1. Building and system name in capital letters from the "BAS Standard Abbreviations" list. This data to be followed by the actual point description in upper and lower case.

      2. Each field to be separated by the pipe character. Utilize abbreviations from the "BAS Standard Abbreviations" list for the building and system.

      3. Utilize plain English for the point description and abbreviations when necessary to fit:
         Example: BUILDING|SYSTEM|Point Description

   F. Arrange all point, object and folder listings in alphabetical order.

   G. For estimating purposes, alarms to be included for each temperature sensor for terminal equipment and for all analog inputs for primary systems. The Contractor is responsible for the coordination and implementation of alarm reporting data with designated FM Operations & Engineering staff.

   H. All BAS alarms to be integrated with and report through the central campus Johnson Controls (JCI) Metasys platform. Andover alarms to be integrated into JCI through BACNET integration.

   I. Brown will select from the contractor-furnished list of data points, and mark up the points to be alarmed with the following criteria:
      1. Alarms to have a minimum report delay or de-bounce timer of 60 seconds
      2. Alarms to be set to a priority of 50 and require acknowledgement
      3. Return to Normal to be set to a priority of 60 and require acknowledgement
      4. Binary status points to be alarmed when status does not match command state and based upon the Owner's notations
      5. Analog points to be alarmed based upon the Owner's notations

6. Alarm messages to include the building name, the system name and a lower case message with no reserved characters or punctuation

J. Alarm messages to include the building name followed by the system name followed by a lower case message indicating the point in alarm and the division to notify with no reserved characters or punctuation.

Example: Medical Education Building AHU-1 freeze protection alarm notify Division 9

K. The following information to be displayed in the alarm viewer for each alarm point when in alarm and at return to normal:

1. BACNET item reference (reference path)
2. Point name field
3. Point description field
4. Type of alarm (e.g., high, low)
5. Alarm message
6. Point value
7. Alarm priority (for alarm event)
8. Normal priority (for normal event)