Division 28 Electronic Safety and Security

1.1 283111 – DIGITAL, ADDRESSABLE FIRE ALARM SYSTEMS

A. The manufacturer shall be FCI, 7100 Series FACP.

B. Approval by an authority having jurisdiction is required before shop drawings are reviewed.

C. Record Drawings: Include changes made during system testing and acceptance.
   1. Record drawings shall be provided a minimum of 48 hours prior to the time of scheduling of partial or final inspection. Indicate the following:
      a. Alarm initiation devices with addresses.
      b. Alarm signal devices with module location/address and circuit number.
      c. Door holder and smoke dampers with module location/address.
      d. Air handling units with module location/address.
      e. Junction and pull boxes.
      f. Layout of conduit.
      g. 120 VAC power source for control panel, door holders, and fire/smoke dampers.
      h. Location of all “end-of-line resistors”.
      i. Calculations for voltage drop on circuits, battery, and audio amplifier sizing.
   2. Record drawings shall be updated and resubmitted after all testing and checkout has been completed and accepted, and shall include any corrections and/or changes made during final inspection.

D. Fire alarm systems shall be addressable-type. The system shall be capable of on-site programming without use of computer connections. The control panel shall be capable of disabling and enabling all addressable devices during periods of maintenance or construction.

E. Initiating Devices:
   1. Smoke detectors shall be photoelectric.
   2. Heat detectors shall be a combination of rate-of-rise and fixed temperature.
   3. Duct-mounted smoke detectors shall be photoelectric.

F. Signaling Devices:
   1. Audible devices shall be multi-tone horns or voice speakers.
   2. Visual devices shall be synchronized xenon strobes.
   3. Audible/visual devices shall be a combination of those above.
G. Manual station guards, where required, shall be STI Stopper II with a 9-volt battery powered warning horn.

H. Resident’s Room Smoke Alarm:
   1. 120-volt powered
   2. Local annunciation
   3. Connected to fire alarm system

I. All changes, modifications, or addendums to alarm systems require the approval of a facilities fire safety specialist.

J. Fire alarm panel must report a fire or trouble and system reset (normal) to public safety via digital communicator. Provide Radionics communicator for existing fire alarm systems.

K. Provide full output/input table of fire alarm monitor and control points to Owner upon completion of installation.

L. Install fire alarm cable in factory-colored red EMT conduit. Exposed raceways shall be Wiremold.

M. Fire alarm testing shall be witnessed by a representative of Creighton University Environmental Health and Safety.

N. FACP shall be keyed to match pull stations. Key shall match other systems on campus. Coordinate with Owner.

O. FACP shall signal energy management system on alarm.

P. Provide two (2) phone lines to digital communicator.

Q. At completion of fire alarm testing, reprogram security access codes per Owner’s requirements.

1.2 336113 – UNDERGROUND HYDRONIC ENERGY DISTRIBUTION

A. Pipe Schedule:

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chilled water piping, buried</td>
<td>Preinsulated piping system consisting of service pipe, polyurethane foam insulation and seamless extruded HDPE jacket</td>
</tr>
</tbody>
</table>

1.3 336313 – UNDERGROUND STEAM AND CONDENSATE DISTRIBUTION PIPING

A. Pipe Schedule:
<table>
<thead>
<tr>
<th>SERVICE</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steam and condensate piping, buried</td>
<td>Preinsulated piping system consisting of service pipe, preformed high temperature mineral wool insulation and 10-gallon steel conduit insulated with polyurethane foam and a FRP jacket</td>
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