

## **Design Standard**

### **Fire Detection and Alarm Systems**

#### **Purpose**

The East Side Union High School District utilizes fire alarm systems at each of its campuses and at the District Administration Building. This design standard describes each system's configuration and describes the descriptor protocol that shall be used by system programmers to name the devices. The design standards cited herein are intended to establish and maintain a consistency in fire alarm systems from campus to campus and from building to building, thereby maximizing quick fire emergency response activities, minimizing staff and emergency response personnel training, and facilitating excellence in the quality of the educational and work facilities of East Side Union High School District buildings.

#### **Design Standard**

##### **1. Gamewell FCI E3 Series Fire Alarm Systems**

ESUHSD has standardized on Gamewell FCI E3 Series Fire Alarm Systems. No other systems shall be considered equal, in order to make all systems compatible, which improves functionality while reducing maintenance and operating costs.

- For mechanical systems with greater than 2,000 cfm capacity, duct detectors should trigger supervisory signals, to avoid nuisance false alarms.

##### **2. Campus Fire Alarm System Configurations**

*Coming soon!*

##### **3. System Components**

Each installation has a unique set of coverage requirements. Designers may select from the following components to develop a system that meets the requirements of the project and the District. Projects may have unique requirements that need components not included in this design standard. Ascertain system requirements during the Programming Phase, and review proposed design no later than at the conclusion of Design Development with the District's Security Systems Coordinator.

*Coming soon!*

##### **4. Layout Requirements**

*Coming soon!*

## 5. Device Descriptors

Standardization of descriptors facilitates operator training and allows quicker identification of device locations by facilities maintenance and operating personnel. Most importantly, it facilitates quicker response time in the event of emergencies. The fire alarm system design professional shall ensure that these descriptor requirements are incorporated into construction specifications, so that these descriptors will be displayed on the E3 displays.

### A. Definitions:

#### 1. Address:

These series of numbers identify each device on the E3 system.

- The numbers are based on the node, the module and the device number (e.g., 02:135-068).
  - Nodes are numbered from 01 to 64
  - Modules are numbered from 001 to 253
  - Devices are numbered from 001 to 254.
- The standard address format is as follows: **NN:MMM-DDD**

#### 2. Descriptor:

This is the line of text that identifies and locates the device corresponding to the address.

#### 3. Device:

This is the type of device. It is identified by an abbreviation or code from the following table below. Examples are PS for a Pull Station or AUD for an audible device such as a horn or bell.

| Initiating Devices          |      | Communication Devices    |      |
|-----------------------------|------|--------------------------|------|
| Smoke Detector              | SD   | Fireman's Phone          | FP   |
| Heat Detector               | HD   | Fireman's Jack           | FJ   |
| Duct Detector               | DD   |                          |      |
| Beam Detector               | BD   | <b>Panels</b>            |      |
| Air Sampling                | AS   | Fire Alarm Control Panel | FACP |
| Monitoring Device (By Name) | MSC  | Printer                  | PRT  |
| Pull Station                | PS   | Annunciator              | ANN  |
| Tamper Switch               | TS   | Video Display Terminal   | VDT  |
| Water Flow                  | WF   | Voice Evac Panel         | EVAC |
| Fire Smoke Damper           | FSD  | Fan Control Panel        | FAN  |
|                             |      | Network Control Center   | NCC  |
| <b>Notification Devices</b> |      | Aux Power Supply         | PWR  |
| Audible                     | AUD  | Dialer                   | DIAL |
| Visual                      | VIS  | Foreign System Interface | FSI  |
| Audible/Visual              | AV   |                          |      |
| Voice Evac Speaker          | SPKR |                          |      |

#### 4. Equipment ID:

The ID number of the piece of equipment that the device is monitoring (e.g., HV-5A)

#### 5. Building Number:

This is the number assigned to the building containing the device (e.g., Bld5 for building 5).

**6. Floor Number:**

This is the number of the floor where the device is located (e.g., F3 for the third floor).

**7. Description:**

This is a description of the location of the device. It may be a room number or name (e.g., Rm 2105 or Lobby). It may also be a directional guide (e.g., N.E. Corridor).

**B. Constraints:****1. Address:**

The address is established during the design and programming of the system's CSGM.

**2. Descriptor:**

The descriptor is limited to 32 characters. This includes letters, numbers, spaces, and punctuation marks.

**C. ESUHSD Descriptor Protocol:**

1. Descriptors at ESUHSD E3 panels shall be developed following this standard ESUHSD protocol. No exceptions are allowed.
6. Address, Device, Equipment ID (if needed), Building Number, Floor Number, Description
7. If the device is monitoring or controlling a piece of equipment, then that equipment's ID shall immediately follow the Device. (e.g., TRI HV-5A).
8. If the description is to contain a single compass point, it should be spelled out (e.g., North). If the description uses multiple compass points such as North East it should be abbreviated (e.g., N.E.).
9. If the description contains a room number, then state the building number followed by a dash and then the three digit room number. (e.g., 2-105)
10. Examples:
  - a. 02:002-007 PS Bld2 F1 RM 2-105
  - b. 02:001-047 SD Bld1 F3 MECH RM
  - c. 02:004-034 DD Bld7 F3 N.E. CORRIDOR
  - d. 02:004-059 TRI HV-5A Bld7 F1 MCC

**Substitutes Allowed?**

- Intrusion Device Descriptor Protocol: No substitute to this descriptor protocol is allowed.
- Fire Alarm System:
  - No substitute to Gamewell FCI is allowed. Pursuant to Section 3400 of the Public Contract Code: Gamewell FCI E3 Series fire alarm systems are now in use on the particular public improvement described as East Side Union High

School District. At each instance in these specifications that a designated material, product, thing or service is designated by the brand name “Gamewell FCI E3 Series fire alarm systems” or “Gamewell FCI” or “E3” is designated to match the existing systems that are in place at each campus and the District Administration Building. The Contractor will furnish and install “Gamewell FCI E3 Series fire alarm systems” as required, and no substitutions shall be deemed to be “or equal” or allowed.

### **Associated Design Standards and Construction Specifications**

- Emergency Vehicle Access and Fire Protection Considerations Design Standard
- Section 21 00 00 Basic Fire Protection Design Standards
- Division 22 Plumbing Design Standards
- Division 23 HVAC Design Standards
- Division 26 Electrical Design Standards

End of Document