



Brighton Area Fire Department

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Alarm Contractor

RE: Brighton Area Fire Authority
Clarification on Fire Alarm Submittals and credentials

To Whom It May Concern:

The Brighton Area Fire Department would like to take this opportunity to clarify the process and requirements for future fire alarm projects in the City. The building departments we work with utilize the Michigan Building Code 2003 edition, National Fire Protection Association (NFPA) *Fire Alarm Code* 2002 edition, and the National Electric Code 2005 as amended by Part 8 – Rules. Although other standards may be referenced (Michigan Mechanical Code 2006 edition and the International Fire Code 2006 edition) the system shall be designed and installed per these requirements.

In response to the requirements of the Michigan Building code and NFPA 72, all alarm contractors performing work on a fire alarm system shall apply for an electrical permit. The submittal documents shall be prepared by a professional engineer or architect registered in the State of Michigan, or a person who has achieved NICET (information can be found at www.nicet.org) certification in fire alarm system layout (See MBC section 106 and NFPA 72 1-6). Supporting documentation shall be submitted with all submittals.

Submittal documents for fire alarm systems (and sprinkler supervisory systems) shall include the following items (attached sheets include specific information for each item):

- Written scope of work which indicates the design standards, overview of the installation, and intent of the system.
- A floor plan which indicates the use of all rooms.
- Locations of alarm-initiating and notification appliances.
- Alarm control and trouble signaling equipment.
- Annunciation.
- Power connection.
- Battery calculations.
- Conductor type and sizes.
- Voltage drop calculations.
- Manufacturers, model numbers and listing information for equipment, devices and materials.
- Details of ceiling height and construction.
- The interface of fire safety control functions

This clarification is designed to guide fire alarm contractors through the general process of fire alarm submittals. The information included in the submittal that is prepared by an appropriate system designer is crucial during the application period. If you have any questions on these requirements please do not hesitate to contact us.

The following items are intended to serve as a guide for the submitting contractor. This is not intended to be an all inclusive guide or requirement. The submitting design professional shall prepare drawings in accordance with the MBC 2003 and NFPA 72.

Drawings

- Sheets to be same size (“C” size 24” x 36” preferred)
- All sheets to be same scale except site plan.
 - preferred scale 1/8” minimum
- Drawing number, revision and date.
- Name and address of project.
- Name and address of installing contractor.
- Reviewed by section on title block showing NICET certification sub-field, level, number and expiration date if required.
- Compass points.
- Sheet title.
- Clear and legible plans suitable for photocopying.
- Name and address of building owner.
- Name and telephone number of installation company contact person.
- Contractor’s license classification and number.
- Name and address of general contractor. (if applicable)
- Name and address of electrical contractor. (if applicable)
- Square footage of each building and total.
- Building occupancy type.
- Type of system: Fire Alarm, conventional hardwired, wireless, addressable, analog addressable, Class “A”, Class “B”.
- List applicable codes and standards with editions used in the system design. Building Code, Fire Code, NFPA 72, NFPA 70.
- Sequence of operation.
- Identify if wiring is enclosed in conduit, open wiring, power limited or non-power limited.
- Contractor notes with reference to this project.
- Fire Department notes with reference to this project.
- Name and location of monitoring company.
- Scope of work (written).
- Box for AHJ approval stamp.
- Wiring legend.
- Symbol list with manufacturer, part number and backbox.

Site Plan Sheet

- Site plan.
- Scale of site plan.
- Scale bar graph.
- Main control panel and all sub-control panel locations.
- Fire Alarm annunciators.

Floor Plan Sheets

- Building floor plan.
- Sheet title.
- Scale of sheet.
- Scale bar graph.
- Location of all doors, windows, walls.
 - Exterior and Interior
- Intended use of each room (i.e. storage, classroom, restroom, vestibule).
- Location of all air supply and return registers.
- Ceiling heights, ceiling details and configuration. May be shown on an additional sheet with reference key.
- Full height cross section of building. May be shown on an additional sheet with reference key.
- Mounting heights of devices.
- Location of main fire alarm control panel.
- Show location and source of emergency stand-by power.
- Location of all annunciator panels, sub-fire alarm panels, notification panels.
- Location of all power sources, panel numbers and breaker numbers for each piece of equipment.
- Show location of all fire alarm detection and notification devices along with temperature ratings and candela ratings (if applicable).
- Show location of all ancillary devices, (i.e. door holders, door closers, gas shut-off, fan shutdown, smoke dampers, etc.).
- Show location of all fire sprinkler risers, water flow switches and tamper switches.
- Show locations of all fire pumps and fire pump controllers.
- Show all remote indicators for hidden devices.
- Show zoning if a conventional system.
- Show wiring type, size, number of conductors and approximate wiring layout.
- Show all rated walls.

Additional Sheets As Required

- Show all areas of the building.
- Show all floors and all configurations.
- Cross sections.
- Ceiling details.
- Device wiring details.
- Device spacing.
- Mounting heights, show detail.

Riser Diagram Sheet

- Full riser diagram showing all devices as connected in the circuit, device addresses, room numbers and or names.

Details Sheet

- Circuit wiring diagram.
- Typical device and ancillary device wiring.

Voltage Drop Calculations Sheets

- Voltage drop calculations for each notification appliance circuit showing wire size, circuit current, and voltage drop.

Stand-by Battery Calculation Sheets (secondary power)

- Stand-by battery calculations for each control panel, sub-panel, power booster, central station transmitter, power supply. Details shall be sufficient to verify from the manufacturer installation sheet, floor plan and riser diagram.

Submittals

- Submittals shall be assembled as complete sets. The sorting of documents shall be completed by the submitting contractor.
- The title page shall contain the job name and address, whom the submittal is being sent to and the name and address of the company submitting the information.
- All submittals shall include appropriate supporting information on the fire alarm system, including written scope of work, manufacturer installation instructions, clarifications and notes to support the design of the system.
- Certificate of completion.